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**REVIEW OF MAJOR CENSUS BUREAU PROGRAMS IN
1993**

Y 4.P 84/10:103-1

Review of Major Census Bureau Progr...

HEARING
BEFORE THE
SUBCOMMITTEE ON CENSUS, STATISTICS AND
POSTAL PERSONNEL
OF THE
COMMITTEE ON
POST OFFICE AND CIVIL SERVICE
HOUSE OF REPRESENTATIVES
ONE HUNDRED THIRD CONGRESS

FIRST SESSION

TUESDAY, MARCH 2, 1993

Serial No. 103-1

Printed for the use of the Committee on Post Office and Civil Service



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REVIEW OF MAJOR CENSUS BUREAU PROGRAMS IN 1993

TUESDAY, MARCH 2, 1993

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON CENSUS, STATISTICS AND POSTAL
PERSONNEL,
COMMITTEE ON POST OFFICE AND CIVIL SERVICE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:30 a.m., in room 311, Cannon House Office Building, Hon. Thomas C. Sawyer (chairman of the subcommittee) presiding.

Members present: Representatives Sawyer, McCloskey, Wynn, and Petri.

Staff present: TerriAnn Lowenthal, staff director, Shelly Wilkie Martínez, professional staff member, Carl Anderson, counsel for Subcommittee on Investigations, George Omas, minority staff assistant, and George Conant, minority staff assistant.

Mr. SAWYER. Good morning. Here we are again. It's a real pleasure to reconvene again for our first hearing of the newly reconstituted subcommittee. We have an expanded jurisdiction this year and the committee has several new members, including a new Ranking Member, Tom Petri, and a colleague for several years on the Post Office and Civil Service Committee, Frank McCloskey. In addition, we are joined this year by Albert Wynn of Maryland, and rejoined by an old friend who has worked very hard on the issues that bring us here together today in terms of the census, and that's Tom Ridge.

We plan to cover several topics today. The critical work in planning for the next census goes forward. We are going to review the progress of that effort, in addition to taking a look at the censuses of agriculture and economics. And connected to all of this is the Bureau's ongoing overall management efforts, the recent reorganization and its relationship to strategic planning.

The core of what we're going to do here today will really be the focus of my remarks this morning. I think most of us hold the census as the cornerstone of the Federal statistical system.

I keep saying over and over again that what you measure is what you get, but then if that's true, it's probably at least as true that the data that you seek determines what and how you measure.

If we learned anything from the last census, it's that in some ways our Nation is changing so fast that traditional census methods alone simply don't work. They are becoming obsolete. That's

not a criticism of the Bureau or its past or present management, it's just an acknowledgement of the consequences of change.

Over the last couple of years, the Bureau has put together a complex planning program. The goal is to select two designs for testing, complete that selection by this fall, and be ready for testing in 1995. And the question is, "Can we get there from where we are right now?"

Let me just offer four comments and then expand upon them. The first is that we need to have a clear set of goals if we are going to get from where we are to where we need to be. The research program has got to address the fundamental causes of what has been a gradual, but clear, diminishment in several aspects of census accuracy.

It seems to me that the Bureau should isolate the workable components in its 14 designs, rather than select 2 from among those 14 designs, and create a blueprint using that combination of elements. And, finally, the Bureau ought to plan now to use 2000 as a staging area for the potential progress that can be made in the years beyond using new techniques for a new century.

Let me talk about each point, one-by-one. First, I am particularly pleased that the Bureau seems to be moving away from selection among complete census designs, eliminating whole designs at a time, as a product of one faulty component. That approach, I think we all have come to agree, leaves us vulnerable. If a fatal flaw knocks out one design after another, then we run the very grave risk of losing our chance for reform.

I think it's much more encouraging to see a strategy that explores the potential of individual building blocks.

Second, any complex project requires clear and distinct goals to act as benchmarks along the way. The Bureau's awaiting approval of public notice that will suggest criteria for choosing a census design. That exercise is extremely important.

Goals that range from subjects like cost containment and accuracy represent the kind of consistent standard that can help guide us toward achieving our primary purpose.

Third, there are some fundamental difficulties in the task that we undertake that are different from what they were several decades ago. There is a rapidly growing number of people in this country who simply don't speak English very well. We see people living in nontraditional households. The scope and pace of demographic change has got to alter the way we take the census. I don't see this as necessarily a negative, and the lessons that we learned in 1990, the data that we gathered, can help to guide and inform the 2000 design. Nobody is better equipped to understand the consequences of that than the people who have undertaken it.

Once the Bureau has grappled with those fundamental issues, then we can fine-tune the operational phase. We've got to recognize that the way we mail and package a census, as important as it is, is probably important down the road. Early planning dollars really need to address underlying causes of diminished accuracy.

One clear barrier to all of that is the pressure to collect enormous amounts of data. In some ways, we may need to make choices, to take some items of data and spread their collection over time. What we gain in timeliness and reliability could well compen-

sate for what we lose in levels of detail. Data that is accurate but out of date, precise but no longer current, is not as useful as data that is timely.

It just seems to me that sound policy decisions often demand more frequent measurements than the census can provide. All we have to do is look at the struggles going on over Chapter I right now, as places like California are trying to allocate dollars using data that was gathered and based on 1979 income, at this point.

Finally, I think it's become clear that we can't implement all of our desired reforms by the year 2000. We've got to break free from the 10-year planning horizon. It would yield a repetitious cycle that limits our opportunity for change.

It seems to me that the Bureau should identify counting methods that offer promise for 2010, or even before. Those techniques cannot be tested any better than in the real-time test of the 2000 census. It may not be the only environment for testing, but it is one that is useful.

Can we get there from here? We've got 14 designs and, in 6 months, there will be two. The real concern I think that we all have is that those two run the risk of looking too much like 1990, or that choices forced upon us will make it look so radically different that it becomes less useful than it ought to be. I don't think either one of those extremes needs to be the case, but we've got to establish central goals for the next census, and conduct research to meeting those objectives in the short-term.

We've got a full agenda this morning, and all of the programs we'll discuss will inform the Nation about a phenomenon for which everybody who stood up in major cities and before national conventions took credit last summer. One time after another I heard folks on both sides say, "We are the agents of change". Well, the truth of the matter is, change is happening. Let's just hope that we can be the "navigators" of change. It's to that end that we gather this morning.

Tom, do you have a comment that you'd like to share?

Mr. PETRI. Yes. First of all, I'd just like to say how pleased I am to have the opportunity to participate in the work of this committee on this side of the table. I've had the opportunity to testify a number of times from that table, on various issues that came before this committee, and I frankly always appreciated the fairness and conscientiousness with which you conducted hearings. So, I'm looking forward to working with you and learning something about the range of issues that the committee deals with.

The Librarian of Congress, James Billington, gives a wonderful speech about how in the Information Age the Library of Congress is our Nation's Fort Knox because it has all of this wonderful collection of literature and volumes from all around the world—in some ways, the largest library in the world.

If that's true of the Library of Congress, then I think it's in some ways even more true of our Census Bureau, which is not a unique American invention, I guess, but certainly was given a higher priority in our Constitution than it had ever been given in the history of the world before, collecting data about your country, and I know it's a model, and our Census Bureau is looked to by countries around the world for technical assistance and advice on how they

can move into the Information Age, understand their societies, and manage change within their societies better.

And I certainly want to contribute in any way I can toward the Census Bureau maintaining its preeminence and even enhancing it and doing a better job in the future, if it's possible, than in the past, in making available in a timely and accurate fashion, information about our country for our fellow citizens, for businesses, for all sorts of organizations within our society.

If we don't have accurate information, it's certainly a lot harder to make good decisions and good investments and allocations of assets, and problems can creep up on us without our knowing it.

So, it's very important to have the best possible census that we can. I think I'm not alone in Washington each year, in reading a column by Bob Samuelson, where he revels in a very obscure otherwise volume called The Statistical Abstract of the United States, and tries to draw a portrait in a kind of a short compass of changes occurring our society as revealed by this wonderful work. And I think that just is one illustration of what maybe looks to some as a very dry and arcane subject, and yet how important it really is as the undergirdings of all that's good about our country.

So, I welcome you, and I hope your stewardship is going well, and I look forward to your testimony.

Mr. SAWYER. Thank you very much, Tom. Thanks for your kind comments. We have worked together on the Education and Labor Committee, and I look forward to the same kind of balanced and reasoned discussion that we shared there.

An old friend and new colleague on this committee, a guy that I frankly asked to come join us just because of the way he approaches problem-solving, is Frank McCloskey. It's a pleasure to have you here, and do you have any comments you'd like to make?

Mr. McCLOSKEY. Thank you, Mr. Chairman. Just thank you for the invitation to serve, and I'm looking forward to learning much more about the census under your leadership. It's an honor to be here today. Thank you.

Mr. SAWYER. Thank you. Our first witness today is Dr. Harry A. Scarr, who is the Acting Director of the Bureau of the Census, and you have no idea what a pleasure it is to have you here. It was with some pleasure that we noted your appointment, and are pleased that you are here now.

STATEMENT OF DR. HARRY A. SCARR, ACTING DIRECTOR, BUREAU OF THE CENSUS

Mr. SCARR. Thank you, Mr. Chairman. It is a pleasure to be here today as Acting Director of the Bureau, to testify before this subcommittee at its initial hearing on the Census Bureau.

I in particular, as well as all the staff at the Bureau, look forward to working with you, with our new Ranking Minority Member, Congressman Petri, with Congressman McCloskey, Congressman Wynn, the subcommittee, and your staff throughout the 103d Congress.

If I may, Mr. Chairman, I will insert my testimony for the record and excerpt from it some brief remarks I'd like to make.

Mr. SAWYER. Without objection.

Mr. SCARR. My testimony addresses the four items you noted in your letter of invitation: 2000 census research and development; joint activities with the Postal Service; the 1992 Economic and Agricultural Censuses; and reorganization of the management services area at the Census Bureau.

To turn first to the 2000 census research and development. In seeking fundamental change for the 2000 census, the research and development program identifies alternative census designs, conducts research on critical characteristics of those designs, conducts research important to any design selected, and manages a process designed to open dialogue with census stakeholders, including the Congress, State and local governments, and data users throughout the country.

The program integrates results from research on the 1990 census into its activities. Three overarching concerns drive this effort, and will drive our future operational planning effort:

First, to reduce differential undercounts and make the census more accurate overall;

Second, to contain costs; and,

Third, to keep the process open.

By September 1993, we intend to have selected the alternatives for taking the 2000 census from the current list of alternatives, or from designs resulting from a combination of elements from different alternatives.

We will test these designs and elements in 1995 and, by December of that year, we must select the final design for the 2000 census.

The hallmark of the 2000 census design efforts, including the research and development program, has been an extensive effort to seek out and listen to those with ideas for change.

We hold frequent periodic briefings for this subcommittee staff, for the staff of the Senate Subcommittee on Regulation and Government Information and, thanks to the assistance provided by the members of this committee and its majority and minority staff, for staff members of other committees and subcommittees of the Congress.

There are, in addition, two National Academy of Sciences panels looking at options for the 2000 census and the decade beyond.

Let me characterize the four classes of designs for the 2000 census. Six designs build upon the basic structure of the 1990 census. Two designs rely on administrative records. Four designs would collect data on fewer topics than we have been collecting in recent censuses. The final two designs allow for collecting census data in two stages or through continuous measurement in the decade following the census year.

All designs allow us to document ways for greater collaboration with the U.S. Postal Service and with State and local governments.

Following research and the exploration of policy considerations for each design, we are preparing an assessment noting what is good about the design and needs to be continued, and indicating the design's feasibility as a full design for testing in 1995. These are commonly referred to as the DAR's.

In the first two design alternative papers, we recommended that three design alternatives that would not provide the data needed

for redistricting under the Voting Rights Act and the two design alternatives that provided for a census based on administrative records no longer be considered as complete designs for the 2000 census.

We distributed these two design alternative recommendations to a broad range of census stakeholders and have received widespread support for our draft recommendations.

The National Academy of Sciences Methods Panel, for example, supported the recommendation to eliminate the five designs.

There are several mechanisms to incorporate results and lessons from 1990 into the 2000 census research and development process. First, many of the managers and research personnel involved in the 1990 REX and CAPE programs are serving on 2000 census technical committees.

Second, 1990 census research staff routinely share their results with 2000 census staff, and have been responsive to requests for special evaluation results to support the identification of alternative census methods. REX results have appeared in some 207 research memoranda covering a variety of subjects relevant to 2000 design and planning efforts.

By analyzing information from 1990 REX reports, we have identified important barriers to reducing the differential undercount: Household composition, questionnaire design and language, and geographical areas requiring special methods.

We have completed research to improve mail response to the 2000 census, presuming, Mr. Chairman, that the 2000 census is a mail-out/mail-back census. An analysis we have completed based on the results of both these tests indicates that if we use a questionnaire designed in a respondent-friendly way and use four contacts with households—a prenotice letter, questionnaire, reminder cards, and replacement forms—we believe we can substantially increase mail response rates.

We have developed a Mail and Telephone Mode Test, to be conducted April 1, 1993. This test will assess the public's preference for responding to the decennial census by telephone versus mail and whether overall response rates can be improved by offering the opportunity to respond by telephone.

We have a project reviewing our system for putting data on the census questionnaires into computer-readable format for speedy processing. We are looking into the possibility of using optical character recognition to read directly written responses to those questionnaire items that require written responses.

We are planning to conduct a pilot study of pen-based computer technology in August 1993.

In December, the Office of Management and Budget formally asked all Federal departments and agencies for their needs for topics to be included in the 2000 census. The Bureau is working closely with OMB to analyze the responses to the request. We also will involve other data users in the content determination process. We will include input from the Census Bureau's advisory committees, professional associations and data user organizations, State and local government officials, State data centers, and public interest organizations.

One of our goals is to create a nationwide, continuously updated, increasingly accurate file of residential addresses—which we would call a Master Address File—linked with a continuously updated, increasingly accurate TIGER database. Based on recent discussions with officials at the Postal Service, we have developed a plan for the Census Bureau activity in this area.

In addition to working with the Postal Service to create a continuously updated MAF, and in addition to updating the TIGER database, we have developed an options paper for describing alternatives for increasing the Postal Service involvement in the census taking process itself.

Some of the ideas being considered include: First, expanding their role in delivery of the questionnaires to include actually preparing the questionnaires for delivery and then checking in returns; second, conducting personal interviews in areas where we do not mail out questionnaires; third, conducting or aiding in the conduct of followup of nonresponding housing units; and, fourth, using their pool of employees as a possible recruitment source for hiring temporary, evening and weekend census workers.

Now, to turn to the Agriculture and Economic Censuses. We conduct the Economic and Agriculture Censuses every 5 years. We sent questionnaires to more than 3.5 million U.S. businesses in the most comprehensive economic census we have ever undertaken.

With the expansion in the service sector, the economic censuses now measure 98 percent of our Nation's economic activity as defined by the scope of the Gross Domestic Product, compared to about 76 percent in 1987.

In the Agriculture Census, we sent questionnaires to some 3.5 million potential farm operations and eventually expect to count about 2 million farms, based on the current definition of a farm.

The census of agriculture is the only source of data representing all facets of the farm economy, and the data are used by the Federal Government, States and localities, academics, and agribusinesses, to address a wide variety of important questions about agriculture.

Finally, Mr. Chairman, the reorganization of the Census Bureau's management services area was approved by the Department of Commerce in December 1992. We have implemented it at the Census Bureau effective January 24, 1993.

The primary change from our prior organization is that the position of Associate Director for Management Services is replaced by two new positions: an Associate Director for Administration and an Associate Director for Information Technology.

The creation, upgrading, and restructuring of the Information Technology area will facilitate the establishment of comprehensive automated data processing standards and the integration of computer systems planning and acquisition activities into our strategic planning process.

Mr. Chairman, that concludes my testimony. I hope I have been able to fully address the four items you noted in your invitation to me. I'll be pleased to answer any questions you or the subcommittee members may have. Thank you, Mr. Chairman.

[The prepared statement of Dr. Scarr follows:]

PREPARED STATEMENT OF HARRY A. SCARR, ACTING DIRECTOR, BUREAU OF THE
CENSUS

INTRODUCTION

Mr. Chairman, it is a pleasure to be here today as Acting Director of the Census Bureau to testify before this Subcommittee at the initial hearing of the 103rd Congress on the Census Bureau. With all the changes that we are experiencing, it is good to know that we will have the continuity that your excellent, ongoing stewardship brings to this Subcommittee. I in particular, as well as all the staff at the Census Bureau, look forward to working with you; Congressman Ridge; our new ranking minority member, Congressman Petri; the other new members of this Subcommittee—Congressman Wynn and Congressman McCloskey; and your staff throughout the 103rd Congress.

Today, I will provide an update on the items you requested, including a detailed portrait of 2000 census research and development activities. But first, for the benefit of the new members, let me provide an overview of the wide range of activities of the Census Bureau.

First and foremost, by virtue of statutory delegation from the Congress, the Census Bureau is responsible for the constitutionally mandated population enumeration, the decennial census. That program provides the data used to reapportion the House of Representatives and is used by the States to draw the boundaries of the districts you represent. The Bureau also conducts major censuses of the Nation's business establishments and farms every 5 years. Data collection for the 1992 Economic and Agriculture Censuses is progressing at this very moment.

The Bureau also conducts quinquennial censuses of governments. The census of governments collects data on four major subject areas—government organization, taxable property values, government employment, and government finances.

On an annual, quarterly or monthly basis, the Bureau conducts almost 200 (the number varies each year) separate surveys of households, business establishments, and governments. These surveys provide, for example, data used by the Bureau of Labor Statistics to calculate monthly unemployment figures, 75 percent of the data used by the Bureau of Economic Analysis in constructing the Gross Domestic Product, and monthly major indicators of the economic health of our Nation. The indicators issued through the Department of Commerce, of which the Census Bureau is a part—include advance retail sales; housing starts and building permits; merchandise exports and imports; advance manufacturer's durable shipments and orders; manufacturer's shipments, inventories, and orders; and investments in plant and equipment.

The Bureau produces annual intercensal population estimates of the population of our Nation and provides population projections for future decades. We conduct international demographic and economic research and train census-takers from other countries.

Through the wide array of data collection efforts we undertake either directly or for other government agencies under cost reimbursable agreements, the Bureau can truly be considered the "Factfinder for the Nation."

Let me now turn to the issues you asked me to address. I shall first describe 2000 census research and development activities, then turn to the status of proposed and ongoing joint ventures between the Census Bureau and the U.S. Postal Service, then provide an update on the status of the 1992 Economic and Agriculture Censuses, and finally discuss the recent reorganization within the management services area of the Bureau.

2000 CENSUS RESEARCH AND DEVELOPMENT

Fundamental Change

The 2000 Census research and development program is examining potential fundamental changes in the design of future decennial censuses of population and housing. From many different sources, including the 1990 census, we have become acutely aware of the ever-changing society of the United States and its potential impact on future censuses. This rapidly changing census-taking environment means that we will not be able to take the next census as we have taken recent censuses if we expect to be successful. We must consider different methodologies, different data collection strategies, and different timing patterns. In a report to you last summer, the General Accounting Office noted that "The current approach to taking the census appears to have exhausted its potential for counting the population cost-effectively." We agree.

In seeking fundamental change for the 2000 census, we are committed to changing the culture of the Census Bureau in terms of how we view the decennial census. To give just one example of what I mean: Over the past few decades we have made major advances in the efficiency of processing decennial census questionnaires. One might have characterized these advances as beginning with the question: "How do we make the census questionnaire processing-friendly?" For the 2000 census, we are beginning with the question: "How do we make the questionnaire respondent-friendly?" This is an example of the kind of fundamental change the Nation will see in the 2000 census.

The research and development program identifies alternative census designs; conducts research on critical characteristics of those designs; conducts research important to any design selected; and manages a process designed to open dialogue with census stakeholders, including the Congress, State and local governments, and data users throughout the country. The program integrates results from our 1990 census research and evaluation program and the research of the Committee on Adjustment of Postcensal Estimates (the group that studied the possibility of using adjusted 1990 census counts as the base in the intercensal estimates program) into its design and planning activities.

In trying to meet the data needs of the Nation, the Bureau of the Census is mandated to provide apportionment counts, State redistricting data, and age and race/ethnic data required to enforce the Voting Rights Act. In addition, three overarching concerns drive this design effort, and will drive our future operational planning effort:

- 1) To reduce differential undercounts—that is, the different rates at which population groups and geographic areas are covered by the census—and make the census more accurate overall.
- 2) To contain costs, and
- 3) To keep the process open.

We have been addressing issues related to reducing the differential undercount since the beginning of the research and development program. One indication of our resolve on this issue is our involvement of representatives of minority groups and other traditionally hard-to-enumerate populations early in all aspects of our open process to get input into the 2000 census design effort. Our zero-based approach to identifying design alternatives has been motivated to a large degree by trying to find ways to address the issue of differential undercount. To give two examples: First, designs based on collecting fewer data than in the past are predicated on the hypothesis that by collecting fewer data we can concentrate resources on improving coverage. Second, designs that incorporate scientific sampling methods are, we hypothesize, also geared to reducing differential undercount. They are based on the premise that if we can save time and money on the basic enumeration, we can devote those resources to doing a better job on coverage.

We are also addressing the problem of differential undercount directly by identifying better ways to count people in traditionally undercounted populations and areas. Mr. Chairman, there is no magic bullet that will solve the problem of differential coverage. There are only hard and creative thinking, imaginative research, and diligent effort on everyone's part to deal with this very difficult problem.

1993 A Pivotal Year

This year is pivotal for the research and development program. By September of 1993, we intend to have selected the viable design alternatives for taking the 2000 census from the current list of alternatives, or from designs resulting from a combination of elements from different alternatives. As Katherine Wallman, the former chair of our Advisory Committee and now the Government's Chief Statistician, remarked, we must not let designs become prisons that trap us. We must use them as vehicles to organize our research in a systematic fashion. Our research to select 1995 test designs is suggesting that while certain full designs may not be viable for 2000, they may have useful features that can serve as building blocks for further testing.

We will test these designs in 1995 and, by December 1995, based on assessments of results from the 1995 census tests, we plan to select the final design for the 2000 census. In order for operational planning and necessary procurement activities to proceed in an orderly and efficient manner, let me reiterate that we intend that the final design be determined by the end of 1995.

There will be ideas that we will not be able to pursue for the 2000 census, but that will deserve consideration in subsequent decades. It is our hope that we will be able to sustain a research and development effort to continue research into these ideas for subsequent censuses, beginning in the fall of 1995.

Open Process

Let me now describe in some detail how we got where we are in this process. The hallmark of the 2000 census design efforts, including the research and development program, has been an extensive effort to seek out and listen to those with ideas for change.

The selection of designs to test in 1995 is being informed by widespread consultation with census stakeholders, wide reaching policy considerations, and extensive research and testing. As one example of our openness, we intend to publish for comment in the Federal Register the criteria we are proposing to use in the course of design selection. We will be sure that all congressional offices receive a specific invitation to comment on our proposed criteria.

The Commerce Department, the Census Bureau, and other agencies in the Executive Branch, have been committed through their participation in the Task Force on the Year 2000 Census and Census Related Activities 2000-2009 to listening to all who can offer informed advice on changes that we should consider. We are further committed to seeking out other sources of information and seeing to it that all ideas are given fair and full consideration, backed by appropriate research. We entered the process with no predetermined outcome in mind.

As you know, Mr. Chairman, there are three committees on the Task Force, established early in 1991 by the Secretary of Commerce. In addition to advice and active participation by these three committees—technical, policy, and advisory—we repeatedly seek advice from the Census Bureau's four professional and four minority census advisory committees, from professional associations and data user groups (such as the American Statistical Association, the Population Association of America, the Council of Professional Associations on Federal Statistics, and the Association of Public Data Users), from State Data Centers, from other Federal and State agencies, from public interest organizations (such as the League of United Latin American Citizens, the National Association for the Advancement of Colored People, the National Congress of American Indians, and the National Urban League) and from organizations of State and local officials (such as the National League of Cities, the United States Conference of Mayors, the National Association of Counties, the National Conference of State Legislatures, and the National Governors' Association).

We hold frequent, periodic briefings for this Subcommittee's staff, for the staff of the Senate Subcommittee on Regulation and Government Information, and, thanks to the assistance provided by the members of this Committee and its majority and minority staff, for members of other committees and subcommittees. I should also point out that many of the ideas we are exploring and the designs we are considering contain elements that have received strong support from congressional sources. For example, congressional concerns have been expressed that we reduce the differential undercount, contain census costs, reduce data collected in the census, look for alternative ways to meet data needs, look at ways to increase the participation of the U.S. Postal Service, and increase the use of administrative records in the census.

There are, in addition, two National Academy of Sciences panels looking at options for the 2000 census and the decade beyond. The first, which we call the "methods panel," is chaired by Dr. Norman Bradburn, Director of the National Opinion Research Center, and formerly provost of the University of Chicago. That panel is providing an outside critical review of the technical and operational feasibility of design options and planned tests. The second, established by Public Law 102-135 largely through the initiative of this Committee and the House Appropriations Subcommittee on Commerce, Justice, State, the Judiciary, and Related Agencies, is chaired by Dr. Charles L. Schultze, Senior Fellow, Brookings Institute. That panel, which we refer to as the "requirements panel," is examining census content requirements for the year 2000 and beyond. The Census Bureau meets regularly with both of these panels, exchanges information with them, and participates at their request with working groups they have established. This relationship has been very fruitful. In December, we received the first report from the methods panel.

By mid-1992, by virtue of the process of open consultation with the broad range of stakeholders just described, four classes of census designs plus a number of cooperative ventures were identified as models for the 2000 census. Each individual design is characterized by unique options to address all the features—or component parts—that we have identified as being necessary for a census.

Let me briefly characterize the four classes of designs for the 2000 census. The first group of six designs builds upon the basic structure of the 1990 census. These designs provide multiple ways to respond to the census, various degrees of sampling and estimation, and targeted enumeration to overcome barriers to enumeration. The

second group of two designs relies entirely or to a very significant extent on administrative records. The third group includes four designs that would collect data on fewer topics than we have been collecting in recent censuses. The final two designs allow for collecting census data in two stages or through continuous measurement in the decade following the census year. The designs also allow us to document ways for greater collaboration with others, such as, the U.S. Postal Service and State and local governments.

Design Alternative Recommendations

What lies ahead for the 2000 design and planning effort for 1993? Following research and the exploration of policy considerations for each design, we will prepare for each design an assessment noting what is good about the design and needs to be continued, and indicating the design's feasibility as a full design for testing in 1995. Even if a design does not seem feasible for 2000, the recommendation could include a statement that it should be further researched for consideration for 2010. We will be working closely with the new Administration on the exact details of how this process of making a final determination should be handled. In 1994, we will be developing the 1995 census design test specifications and begin operational planning for those tests.

In September 1992, the Census Bureau issued the first two draft design alternative recommendations. These will be rewritten after we have established final criteria, but we do not anticipate that the final recommendations will change. In the first design alternative recommendation, we recommended that three design alternatives that would not provide the data needed for redistricting under the Voting Rights Act no longer be considered for the 2000 census. By Voting Rights Act data, we mean the number of persons 18 years old and older, race, and Hispanic origin at the census block level. In explaining our rationale for this recommendation, we cited the Constitution, public law, Justice Department requirements, and recent litigation that, we believe, establish a strong mandate for the decennial census to produce data to meet these requirements.

In the second design alternative recommendation, we recommended that research on issues raised by two design alternatives—those that provide either for a census based solely on administrative records or a census based primarily on administrative records but with some enumeration—be continued to explore possible uses of administrative records in the year 2000. We concluded additionally that administrative records at this time cannot provide enough demographic data to meet Voting Rights Act requirements for redistricting. Our conclusion was based on research we conducted on administrative records, which I will discuss later. In this design alternative recommendation, we also recommended that, funds permitting, research should continue on the two complete administrative records designs for subsequent censuses and that planning for expanded uses of such records for the 2000 census should undergo continual development. We are confident that although our research shows that administrative records systems are not capable of replacing an enumeration-based 2000 census, they offer the potential to introduce fundamental change by improving coverage in 2000.

We distributed these two design alternative recommendations to a broad range of census stakeholders and have received widespread support for our draft recommendations.

In your invitation to appear before the Subcommittee, you asked me to address specifically the report of the National Academy of Sciences' methods panel on the two design alternative recommendations and our response to them. We received the Panel report in December 1992 and provided our responses to them at a 2-day meeting on February 4 and 5. The Panel supported the recommendations to eliminate the five designs recommended for elimination in the two design alternative recommendations and made specific recommendations concerning further consideration of the use of administrative records for future censuses. One recommendation was that the Census Bureau initiate, as soon as possible, a separate program of research on uses of administrative records, not directly related to the 2000 census. This effort would focus primarily on the 2010 census and the current estimates program and would be funded separately from 2000 census research and development activities. We have that recommendation under serious consideration. I will be happy to provide any additional information you may want on the Panel's other recommendations.

REX and CAPE Programs

In response to another request in your letter of invitation, let me now describe how we are fully integrating the results from our 1990 census research, evaluation, and experimental (REX) program and the research of the Committee on Adjustment

of Postcensal Estimates (CAPE) into the 2000 design and planning effort. There are several mechanisms to incorporate results and lessons from 1990 into the 2000 census research and development process. First, many of the managers and research personnel involved in the 1990 REX and CAPE programs are serving on 2000 census technical committees. For example, an internal Census Bureau committee, the Research and Development Steering Committee, includes the chiefs of all the divisions involved with the REX and CAPE programs.

Second, 1990 census research staff routinely share their results with 2000 census staff, and have been responsive to requests for special evaluation results to support the identification of alternative census methods. REX results have appeared in some 207 research memoranda covering a variety of subjects relevant to 2000 design and planning efforts, including 47 memoranda on coverage measurement issues, 42 on coverage improvement technologies, 22 evaluations provided by ethnographic researchers, and 13 memoranda on the enumeration of the homeless population. These results assist in the design of 2000 census research projects. We based our recent presentation on "barriers to enumeration," to the public advisory committee of the Task Force on findings from the REX program, drawing upon results from all four of the categories just noted. Third, many of the CAPE researchers are working on designs for the 2000 census that would combine estimation and enumeration to arrive at a single set of census numbers.

Research Completed and Planned

Our research program is too extensive to cover fully today. Let me, however, discuss progress in four areas: 1) barriers to enumeration, 2) administrative records 3) improving mail response, and 4) technology. The research we are conducting in these four areas relates to all of the design alternatives, except the five we have already recommended no longer be constituted as viable complete design candidates for the 2000 census.

Barriers to Enumeration.—By analyzing data from 1990 REX reports, we have identified several of the most important barriers to reducing the differential undercount. We have held numerous discussions with stakeholders on these barriers. The barriers include "complex" households, housing units with noncity style addresses or other irregular features, group quarter living situations, communications and language difficulties, renters and socio-economic status, and lack of cooperation in responding by the public. We have developed specific research projects to address each of these barriers.

Let me now describe three of these projects. First, we are addressing ways to count all members of a household by examining the census residence rules and their application in our changing society. To do this, we will conduct later this year a Living Situations Survey. In this effort, we will analyze data on new or changed household composition, mobility, residency patterns, and attachment of other persons to households and other places that must be addressed by enumeration and residence rules. The data will be used to recommend new approaches for applying the census residence rules and assessing the need to change them. We plan to supplement the Living Situations Survey household data with a literature search and with focus groups on living arrangements, especially with new immigrants. Based on the results of the Living Situations Survey, we will consider the need to modify census residence rules or census questions on residency to accommodate the increasingly complex and varied living situations of the population. Second, beginning in December 1992, we conducted in-depth debriefing interviews and focus groups with Hispanics from different national origin groups to generate an understanding of how Hispanics interpret and respond to the census forms. We hope this will lead to improved questionnaire design for 2000 as well as Spanish language forms that accurately reflect census concepts. Third, we have begun research to identify specific geographic areas requiring special methods and to develop "tool kits" of methods to target those areas. The "tool kit" approach will give us more flexibility than in any previous census to meet special enumeration requirements of specific areas.

Administrative Records.—We had completed considerable research on administrative records by last fall in order to make there commendation that the two administrative records census designs no longer be considered for the 2000 census. We studied the content of the Social Security Administration's file that is maintained as part of the process of applying for a social security number, Internal Revenue Service files, State drivers license files, and State birth record files. None of these three major sources separately, or taken together, can meet the coverage and demographic content requirements for redistricting. Administrative records research, however, remains an important part of the 2000 census research and development program.

Our focus now has shifted to the use that can be made of administrative records to provide coverage improvement and cost reduction.

We continue to conduct research into which administrative records systems exist and what they contain. We are currently quantifying the results of using local records such as tax assessment records and public school lists as part of a study being conducted in conjunction with the special census of Godfrey, Illinois. We are in the process of obtaining similar record systems for South Tucson, Arizona.

We have established expanded communication with key Federal agencies that maintain records systems. Several records systems, such as Food Stamps records, appear to have high potential for improving coverage in the census. It is important that we learn the extent to which such records could be used to accurately count and locate those who are hard to enumerate.

There are issues related to gaining access to record systems particularly at the State level, and we continue to collect information about laws and practices that govern the use of administrative records for statistical purposes. We are sponsoring an interagency conference in June 1993 to provide an opportunity for Federal agencies to express their concerns about the statistical use of administrative records and to identify the barriers to such use.

Critical to the use of administrative records and other requirements, such as multi-mode data collection and coverage measurement methods, is improving and expanding our capability to unduplicate records. We are dedicating considerable effort to this area.

Another effort that will contribute materially to our understanding and use of administrative records as part of the 2000 census and beyond is the expansion of the Census Bureau's Administrative Record Information System (ARIS). The Census Bureau first developed this system in the early 1980's to contain information about Federal administrative records systems. We recently expanded the scope of ARIS to include information about State files. Beginning in June 1992, Census Bureau staff sent questionnaires to state agency heads asking for a description of their record systems.

Improving Mail Response Rates.—We have completed research to improve mail response to the 2000 census. Our research on improving mail response by designing respondent-friendly questionnaires and improving our mail methodology has indicated that we should be able to achieve increases in response for the 2000 census. In particular, our research shows that we may be able to make larger relative gains in the traditional hard-to-enumerate areas, than in other areas.

Let me now provide a little more specific detail on our mail response research. On July 1, 1992, the Census Bureau reported to you on the results of the March 1992 Simplified Questionnaire Test (SQT). The Simplified Questionnaire Test's primary focus was on the relationship between form length and mail response rate. Additionally, the SQT looked at the effect of using a better designed questionnaire and making multiple contacts with households. In September 1992, we conducted the Implementation Test (IT) to examine more closely the effect of these multiple contacts on mail-response rate.

An analysis we have completed based on the results of both these tests indicates that if we use a shorter questionnaire than in 1990, designed in a respondent-friendly way, and use four contacts with households—a pre-notice letter, questionnaire, reminder card, and replacement form—we believe we can substantially increase mail response rates in our tests. While these results are particularly encouraging, we still have important questions that remain open with respect to census mail response rates. For example, we do not know how outreach and advertising for the census will interact with our improved methodology, but we are taking steps to assess that.

While the tests we have conducted so far apply only to the shortform questionnaire, this summer we will conduct a test to determine the effect of respondent-friendly design and multiple contacts on response rates for the long-form questionnaire. In this test, we will also compare various appeals designed to improve response rates, including stressing the mandatory nature of the response. This test will be important should one of the designs we select for the 1995 test include the collection of data on a long-form questionnaire.

As part of our efforts to consider multiple modes for answering the census, we have developed a Mail and Telephone Mode Test, to be conducted April 1, 1993. This test will assess the public's preference for responding to the decennial census by telephone versus mail and whether overall rates can be improved by offering the opportunity to respond by telephone. The telephone offers two potential improvements—improving response rates and the speed of response and improving data

quality. The latter is achieved by allowing respondents to clear up confusing questions with a telephone interviewer.

Technology.—Our technology research includes looking at ways of providing householders multiple ways of responding to the census, including the Mail and Telephone Mode Test that I just mentioned. We will conduct additional research on the feasibility of letting householders respond using other technologies such as personal computers.

Another project reviews our system for putting data on the census questionnaires into computer-readable format for speedy processing. As you may recall, for the 1990 census we used specially designed high-speed cameras to microfilm the questionnaires, developed the film, and then used Film Optical Sensing Device for Input to Computer (FOSDIC) machines to scan and interpret the film for computer processing. FOSDIC machines were invented for Census Bureau use and have been used, after significant updating each decade, in each of the last four censuses. A very promising alternative we are looking into is a new "data imaging" system that would replace these three separate processes with one integrated process. This process would involve putting an image of the questionnaire directly into commercially available computer workstations for electronic interpretation and data presentation for clerical review operations. As research continues, we will be pleased to provide a more detailed briefing on it.

As another part of our overall technology research, we are looking into the possibility of using optical character recognition (OCR) to read directly written responses to those questionnaire items that require written responses. The Census Bureau has provided funding to the National Institute of Standards and Technology (NIST) to conduct research into OCR capabilities. The first conference on OCR technology was convened by NIST in May 1992 to discuss the results of a test of the capability of the various OCR systems of 28 different companies and organizations to read hand-printed entries. We learned from the conference that OCR is still at a very early stage of development for census applications, but it shows sufficient promise to warrant our continuing to support research in this area.

We are also planning to conduct a pilot study of pen-based computer technology in August 1993. This technology allows enumerators to write a map change or an address onto a hand-held computer screen. If successful, such a technology could introduce cost-saving efficiencies into address development operations.

Census Questionnaire Content

In December 1992, the Office of Management and Budget (OMB) formally asked all Federal departments and agencies their needs for topics to be included in the 2000 census. OMB expressed the belief that a final resolution of the 2000 census questionnaire content could and should be achieved earlier this decade than was the case for the 1990 census. OMB also noted that data content is an essential part of the deliberations on census design alternatives. OMB's target for receipt of agency input was mid February. The Census Bureau has been working closely with the agencies to assist them in meeting the OMB request. The Bureau will work closely with OMB to analyze the responses over the next several months.

We also will involve other data users in the process. We expect to receive input from the Census Bureau's advisory committees, professional associations and data user organizations, State and local government officials, State Data Centers, and public interest organizations.

Legislation

Finally, to take advantage of some new ways of conducting the census and to correct some problems that occurred in 1990 that we believe we can avoid, we may need to request specific legislative changes. For example, we may need to seek legislation to explicitly allow us to use sampling in arriving at the counts at all levels of geography. Section 195 of Title 13, United States Code, the basic code for the Bureau of the Census, allows using sampling techniques except for determining the population for purposes of apportioning the House of Representatives. The General Accounting Office, in a transition report prepared in December 1992, said:

Sampling for nonrespondents will require early consideration by the Census Bureau and other key policymakers inside and outside Commerce. Legislation may be needed to allow the Census Bureau to sample those housing units not returning a form by mail. Because of its critical nature to census planning and the need for operational testing, legislation to permit sampling, if necessary, should be proposed to and considered by the Congress as expeditiously as possible.

When the Administration has decided whether legislative changes are necessary, the Department will advise the Congress.

JOINT ACTIVITIES WITH THE U.S. POSTAL SERVICE

One of our goals is to create a nationwide, continuously updated, increasingly accurate file of residential addresses—which we would call a Master Address File—linked with a continuously updated, increasingly accurate TIGER data base. TIGER contains geographic boundaries, important physical features such as roads and rivers, and address ranges. It does not contain individual addresses or housing unit counts. We believe that creating a system to continuously update the address control file and TIGER data base will be more cost-efficient and lead to better files than if we wait until late in the decade and do a massive, hurried updating job. We also believe that we must link the two files, which was not done for the 1990 census, so that changes to one file are automatically made to the other.

Based on recent discussions with officials at the Postal Service, we have developed a plan for census activity. The plan would put emphasis on starting with the creation of the Master Address File rather than starting with updating the TIGER data base, as we had considered doing in an earlier pilot project with the Postal Service.

To accomplish this, we must implement several new approaches. First, we must put the information currently in the 1990 census address control file into a new format—the Master Address File—that is designed to be continuously updated.

Second, we must develop effective methods for updating the Master Address File. Performing a continuous address list update will improve the coverage and quality of the addresses in the Master Address File and avoid the labor intensive, error prone address list preparation approaches of the past.

Third, we must change our traditional approach for updating the residential address list in isolation from the updates to the geographic information in the TIGER data base. To do this, we either must integrate the Master Address File and the TIGER data base into a single file, or link them using new software and processing methodologies that ensure every update to one causes a corresponding update to the other. The Census Bureau will use update information from the Master Address File to target areas where we need to update information in the TIGER data base.

Fourth, we must continuously evaluate the quality of the information in the Master Address File and TIGER databases and take steps to ensure that the information meets the requirements of the 2000 census, other Bureau programs, and other users of the information. Because information will be coming from various sources, and we are likely to have special challenges in rural areas, we must continuously assess and improve the quality.

Fifth, the Census Bureau must develop the portable computer software needed to implement the new approaches, acquire the additional computer processing capacity and specialized equipment needed to operate that new software, and arrange for the maintenance services needed to keep the additional computers and specialized equipment functional. By portable, I mean software that is not dependent on the hardware and operating systems of any particular computer manufacturer or the map and address information of any particular cooperating partner.

Originally we and the Postal Service were working on a plan that would have given priority to updating the TIGER data base and, thus, would have delayed the creation of the Master Address File until much later in the decade. We believe the highest priority should be given to creating the Master Address File now because every design option for the 2000 census (including those relying on administrative records) presumes the existence of a complete, comprehensive, and correctly geocoded address list.

We will use the address list updates the Postal Service provides and information from other Federal agencies and State and local agencies to update the Master Address File and to identify where we need to make updates to the TIGER data base. This new plan also provides for a much larger role for State and local governments in terms of updating the accuracy of the Master Address File and the TIGER data base.

As you know, Mr. Chairman, the most significant and uniform source for address updates is the Postal Service, which continuously updates its own files. For this reason, the Postal Service will be the major player in helping us keep our address list up to date. To take advantage of all available address information, we also intend to ask State and local governments to provide copies of the computerized address lists they maintain. We also may make similar requests of other Federal agencies and private sector firms that have created and regularly update address lists for their own programmatic purposes. Many local officials have expressed the desire to review our address list, which is now prohibited by law, as a way of better partici-

pating in the process of assuring the accuracy and completeness of the address information. As I noted earlier, this is one area where we may seek legislation.

In addition to working with the Postal Service to create a continuously updated Master Address File and to update the TIGER data base, we have developed an options paper describing alternatives for increasing their involvement in the census taking process. Some of the ideas being considered include: (1) expanding their role in delivery of the questionnaires to include actually preparing the questionnaires for delivery and then checking in returns, (2) conducting personal interviews in areas where we do not mail out questionnaires, (3) conducting or aiding in the conduct of followup of nonresponding housing units, and (4) using their pool of employees as a possible recruitment source for hiring temporary, evening and weekend census workers. We expect to enter into discussions with the Postal Service in the near future to develop a research agenda based on these options.

1992 ECONOMIC AND AGRICULTURE CENSUSES

As you know, Mr. Chairman, we conduct the Economic and Agriculture censuses every 5 years. We sent questionnaires to more than 3.5 million U.S. businesses in the most comprehensive economic censuses we have ever undertaken. For the first time, we are measuring activity in finance, insurance, real estate, and communications and utilities, in addition to sectors traditionally covered—retail and wholesale trade, other service industries, transportation, manufactures, and mining and construction industries. With the expansion in the service sector, the economic censuses now measure 98 percent of our Nation's economic activity as defined by the scope of the Gross Domestic Product, compared to about 76 percent in 1987.

The economic censuses identify trends in business activity vital to measuring and encouraging growth in the American economy. The Federal government uses the data to develop measures of economic change, and State and local agencies and businesses themselves use the data. We will publish statistics from the economic censuses in more than 500 printed reports and in formats for computer, including compact discs (CD-ROMS). We plan to issue these reports beginning in late 1993 and into 1994-1995.

In the Agriculture census, we sent questionnaires to some 3.5 million possible farm operations and eventually we expect to count about 2 million farms, based on the definition of a farm. A farm, for purposes of this census, is any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold during the census year. In the previous census, about half of the farms enumerated had sales of \$10,000 or more.

The agriculture census provides the most thorough source of data regarding the structure and activity of U.S. agriculture. It is the only source of data representing all facets of the farm economy and the data are used by the Federal government, States and localities, academics, and agribusinesses to address a wide array of important questions about agriculture. We will release data products in both printed and electronic media beginning in late 1993. We plan to release detailed State and county data and special reports on a flow basis through 1994.

Questionnaires for both these censuses were mailed out in December 1992. Responses were due by February 1 for the agriculture census, and by February 15 for the economic censuses. By February 19, we had received responses for 56 percent of the farm operators, compared to 57 percent in 1987 and responses for 45 percent of business establishments, compared to 36 percent in 1987. To date, we have received approximately 105,000 calls to our toll-free assistance number asking for help in completing the agriculture or economic questionnaires. We are very encouraged by the improved initial response rates for the economic censuses. They are due, in our judgment, to increased promotional efforts, and improved questionnaires and mailing packages.

Our follow-up for the agriculture census began in February with the mailing of a reminder letter and a copy of the original form to nonrespondents. We plan similar mailings in March, April, and May. In March we will also begin telephone followup of the largest farm and ranch operators.

For the economic censuses, we are mailing follow-up letters during the first 2 weeks of this month to all nonresponding establishments, and a copy of the original form to single establishments. We plan similar follow-up mailings in April and May.

REORGANIZATION OF THE MANAGEMENT SERVICES AREA

Let me now touch on the reorganization of the Census Bureau's management services area, which was approved by the Department of Commerce in December 1992 and which we have implemented at the Census Bureau as of January 24, 1993.

The primary change from our prior organization is that the position of Associate Director for Management Services is replaced by two new positions: an Associate Director for Administration and an Associate Director for Information Technology. We implemented the reorganization to provide a clear focus on the rapidly changing world of information technology through an executive level position with full authority for managing the Census Bureau's wide array of information technology resources. The need to achieve program improvements from information technology investments requires strengthened management and sound planning at the highest level of the organization. The Bureau stands on the brink of a major information technology modernization as it heads toward an open system environment to support its survey and census programs through the end of the decade. This new, stronger information technology management structure will facilitate this complex transition.

The creation and restructuring of the Information Technology area will facilitate the establishment of comprehensive automated data processing standards and the integration of computer systems planning and acquisition activities into the existing strategic planning process. One of the Census Bureau's strategic goals is to automate effectively. This means capitalizing on and improving our hardware, software, and automated data processing staff resources to incorporate the effective use of automation into all phases of our work.

At your request, we provided you additional detail on the reorganization prior to the hearing and will be happy to provide any further information you need.

Mr. Chairman, that concludes my testimony. I hope I have been able to fully address the four items you noted in your invitation to me: (1) 2000 census research and development, (2) joint activities we are undertaking with the U.S. Postal Service, (3) the 1992 Economic and Agriculture Censuses, and (4) reorganization of the management services area. I will be pleased to answer any questions you or other Subcommittee members may have. Thank you.

Mr. SAWYER. That was the quickest trip through 34 pages I've seen in a long time.

[Laughter.]

Let me ask you to expand and respond to the National Academy's concern about the so-called "fatal flaw" approach.

Mr. SCARR. One of the advantages of the open process we have in our work with the Academy is, people tell us when we're doing something wrong.

As we looked at the Census designs, we realized that we were departing from something that Bob Groves had said early on, that is, that it may be the case that the design we wind up with will look nothing like any of the designs we have on the table.

The fatal flaw notion, in our judgment, did not adequately address the need to maintain the good things from all of the different designs. It, in addition, seemed to not apply the same standard to all the designs.

With encouragement from the Academy and from the Office of Management and Budget and from our own staff, we prepared a list of criteria that we propose to use rather than the so-called fatal flaw approach. Those criteria are embodied in the Federal Register notice to which you referred, Mr. Chairman, and we believe that's a much more satisfactory way to proceed.

Mr. SAWYER. You identified in your testimony a couple of overarching concerns—containing costs and reducing the differential undercounts, in particular. I couldn't agree more that those kinds of guiding principles are critical, and I don't even disagree with those two that you've chosen.

Can you give us a sense of how those goals were determined, reaction of the wide range of stakeholders to those or to other potential goals?

Mr. SCARR. I'm sorry, Mr. Chairman? How those respond to the range of stakeholders?

Mr. SAWYER. Yes.

Mr. SCARR. Basically, in our discussions with stakeholders, we've actually been—if I were to summarize, there are basically several concerns that were raised by them.

First, they impressed upon us very strongly that reducing the differential undercount was their highest priority. They impressed upon us very strongly that for many of the stakeholders reducing cost was very important. They also impressed upon us that reducing questionnaire burden was very important. And they also impressed upon us that they didn't want to lose any information that they'd been getting in the past.

[Laughter.]

It is sometimes difficult to know how we're going to satisfy all those at once, but we're trying. I believe that the criteria that we have selected attempt to respond to and reflect those concerns, and we believe and have guided our research program from the beginning, or tried to guide it, on the basis of coverage and cost and being open.

Mr. SAWYER. The other important concepts that you identified as ways of at least achieving a reduction in the differential undercount, as you mentioned, collecting less information and incorporating sampling methods into the enumeration itself, how well has research on those two areas been focused in the course of where we are now, where we're going to be in the next few months?

Mr. SCARR. The sampling research is underway at this point, and should be producing results within the next several months. There's a third research area, Mr. Chairman, that we're engaged in at the moment, called "Overcoming barriers to enumeration", which is sort of a direct approach to trying to develop a taxonomy of those things that have prevented people basically from responding to the census.

What was the second one you mentioned? I'm sorry.

Mr. SAWYER. The whole business of incorporating sampling methods in the enumeration itself.

Mr. SCARR. Yes. There is research going on in that light. I think that we are pretty clearly committed to being sure that any sampling procedures are incorporated into the census itself, so that we wind up with a single set of numbers in a timely fashion.

I think what we've learned from the experience of the last two censuses is that although there always is a single set of census numbers, the presence of an alternative set is sometimes not constructive. And, so, we have research that is looking into ways of building the estimation process into the enumeration process itself.

We also are looking into ways of using sampling for nonresponse followup. We're not sure of the legal status of that, but we are encouraged by the recent Congressional Research Service report which indicated that it was the belief of the author of that report that such procedures were legal under current law. And we are looking into that and exploring other ways of using sampling.

Mr. Chairman, one thing that's important, I think, if I may return to the taxonomy I described, is that some of the variance isn't under our control. And what's very helpful when you look at

barriers to enumeration is to sort of separate the stuff that you really can do something about, from those factors that unfortunately you might not be able to do something about. And, so, we're encouraged by that process as well.

Mr. SAWYER. The whole business of using sampling techniques and the need to reduce the data burden that the decennial instrument carries really come together when we look at options for replacing potentially lost data. Is the Bureau working on vehicles for replacing information that might not be collected in the census?

Mr. SCARR. We are beginning to look very closely at the continuous measurement notion of designing a census and a followup series of surveys. As you know, Mr. Chairman, that involves basically, in its full form, redesign of the entire Federal statistical system in the demographic area.

We have had no formal discussions with other agencies about that, but we are beginning to look at how that might be brought about because that offers the possibility of a minimal census in years ending in zero, and we're not sure what cost implications they have—they may not be as great as we think, but we hope they are—and the shifting of other information which might be available more frequently to stakeholders and interested parties in the following decade.

The technical difficulty we're having is the level of disaggregation because the current form of the census provides information to the block and tract level, and we are just wrestling with the possibility of data at place and tract level under a continuous measurement design. As a matter of fact, one of the questions that OMB has asked in its survey of Federal agencies, is for those agencies to specify what their data content requirements would look like under conditions of a continuous measurement census, and where else they might get the information.

Mr. SAWYER. We presume that it is absolutely necessary that data for purposes of decennial redistricting and Voting Rights Act and others need to go to the tract or block level, and that may be, although I'm not certain that that's been fully demonstrated.

But I'm not sure that the same presumption applies to a variety of the additional data that is collected, although it would be useful and nice to have it to the tract level. It seems to me that there are tradeoffs that can be made with regard to, for example, the importance of timeliness of poverty and other kinds of data, during a time of rapid change, where precision to the tract level is practically useless when that precision applies to 1979. Estimates based on those figures may be updated every several years. They have the illusion of precision at the tract level, but really only compound the errors that project themselves over that extended period of time before you remeasure.

In any event, let me ask you this. You mentioned that you thought that it was possible to do this without altering the law. Is there legislation that you think that this committee or others ought to be thinking about in the course of this year, as you prepare for 2000?

Mr. SCARR. Mr. Chairman, you might understand, this has to be my personal view because there is not a political head of the Census Bureau.

Mr. SAWYER. I do understand that. I'm asking really for a technical response, not for what is necessary or what you advocate, but what we ought to be thinking about.

Mr. SCARR. I think clarification would be useful under any circumstances. I think the conflict between sections—I think it's 184 and 195 in title XIII—have at best been resolved at either the lower court level or occasionally at the appellate court level, but I think that there is confusion there.

Now, the interpretation of the Congressional Research Service indicated that they thought that it clearly was permissible to use sampling in any form other than a complete sample census. But I think any clarification the Bureau would find very useful, and I think others would, too.

Mr. SAWYER. Thank you. I'm just going to ask one more question at this point. I think the real shame would be if design were determined by indirection—that is to say, if, in fact, the limitations of a budget process relatively early in the course of this decade would steer decisionmaking in a direction that a few extra dollars early on in the decade could have overcome.

Clearly, I think, in the last decade, we wound up spending a substantial amount of money at the end of the decade that might have been diminished with the expenditure of somewhat fewer dollars at the beginning.

Research is an important part of this. What will be the priority areas or research that we ought to concentrate on as we consider budgets for fiscal year 1994?

Mr. SCARR. I think that the priorities that we have laid out, Mr. Chairman, the priority on looking into problems having to do with the differential undercount is clearly one of the things that we would be most concerned with, and we're trying to mount research in that area now.

In addition to that, we have a program of research into administrative records, which is very nicely supported at this point. But I hope that the total design package that we have has laid things out in such a way that the outcome won't be the one that you suggested, by indirection. As a matter of fact, to the degree that we get into things like continuous measurement census, that clearly isn't the case. There's a real sense of excitement about the possibility of doing that, quite frankly.

Mr. SAWYER. GAO obviously has mentioned some concerns and misgivings about that planning process. Can you comment about whether or not you feel there needs to be any streamlining of that planning process in the next critical 6 months?

Mr. SCARR. I think that the process that we have laid out is that that's embodied in many of the materials that we provided to our various stakeholders and to committee staff, the detailed task statement.

I think that clarifying the role of the Federal Register notice and making it clear that that becomes something that helps us rather than a hindrance by virtue of the number of times we keep going back there will help.

It is the case that from the beginning it was clear that the design assessments would essentially come out in clumps over this spring, as they clearly will. We believe that we can stick to our schedule,

and that we will stick to our schedule, and that we'll meet our deadlines.

Mr. SAWYER. Thank you very much. I'm pleased to note that we've been joined by Congressman Wynn, of Maryland, and we'll turn to him in a moment. But let me ask Tom—do you have any questions or points you'd like to pursue at this point?

Mr. PETRI. Just one or two. Are you receiving good cooperation from other Federal departments and agencies in working toward your revised 2000 census process?

Mr. SCARR. Yes, very much. As you may or may not know, Mr. Congressman, we have a task force that has implicated the major agencies that are involved in the census, and we work together with them and with OMB and, to this point, yes, everything has been fine.

Mr. PETRI. I guess I don't know enough to ask a really good question, but I'm just trying to—

Mr. SAWYER. It's easier when you know how to ask the questions.

Mr. SCARR. I think you're doing just fine.

[Laughter.]

Mr. PETRI. What happens in the real world back in my area, and there's been a tremendous change, as we're all aware, because of the capabilities of computers, and we seem to be moving sort of almost online data collection in many areas of our community. And I have the sense, running my congressional office, that there are services out there now working with the Post Office, that try to keep track of—publishers and for others—of basically every household in the country, and somehow they can transfer mail and do all sorts of things when people move, by making one adjustment in their central—are you plugged into that, or is the Post Office working with you, in developing a kind of computer base for your information, or do you collect it in a different way?

Mr. SCARR. We basically have two sorts of efforts going. One is the maintenance of a Master Address File, of the kind that you referred to, and we have discussed with the Post Office the possibility of working more closely with them, in that they provide us with input to update our Master Address File.

The second thing we have, since the census requires not only the counting, but the location of each individual, we have something called the TIGER file, which is a digitized map system. And we would hope at some point to put the two of those together, and we have been working with the Post Office on that project. But that seems a little less likely at this point. However, we have a traditional relationship with State and local communities to update the maps partially, in some instances, by digitized information from the local communities. However—there are some pilot projects there—there are some problems there. But we do work with the Post Office with respect to the addresses.

So, that's a very long answer to a very good question, but the question was more straightforward than the answer. We do have an address list. There are constraints on our address list by virtue of title XIII, so that there are limitations on what we can do with respect to that list.

We have a sophisticated mapping program in operation, and we're working toward marrying the two to improve our capability for 2000.

Mr. PETRI. Evidently, with private industry going to just-in-time and manufacturing to-order, and so on, that when someone buys something at a grocery store, they seem to know it at the toothpaste factory practically, and make another thing. My truckers tell me they are down to between the time there's an order and the thing is made, they're at 5 days' turnaround, and they're hoping to get down to three.

I have another outfit called Donahue and Associates that does a lot of contract civil engineering work, but they're in the process of contracting with cities to do what they hope will be a worldwide, eventually, computer map of all the pipes and wires and physical infrastructure because it's very expensive now. They have to explore, the records are lost over a period of time, like New York or Chicago, mistakes happen. And this is a major sort of social capital investment that private sector is working hard on taking the lead in.

Are you involved somehow in that type of social investment? It just seems, in some sense, it makes sense for the Government or some central bagholder, so to speak, to update and make available to people this kind of information. But maybe it's better to have it done in the private sector.

Mr. SCARR. There is a major Government effort to coordinate and collaborate in the creation of maps and digitized maps for the country. The U.S. Geological Survey and the U.S. Census Bureau are heavily involved in that.

The digitized map industry was partially really supported by the Census Bureau's effort in TIGER, and the Census Bureau has been basically a leader in that field.

What you describe is a very useful activity. I don't quite know how to respond to part of it, but one of the issues with the Census Bureau is that what the Census Bureau does is so massive compared to everything else, that sometimes it's difficult to draw complete parallels with the private sector because something that the Bureau might have to do might not be particularly economical or useful for the private sector. But we are aware of, we work with them extensively, and we are working toward the kind of quick response, sophisticated, digitized, computerized operation that you're describing.

Mr. PETRI. Thank you.

Mr. SAWYER. Frank?

Mr. McCLOSKEY. Thank you very much, Mr. Chairman. Two or three areas, as a newcomer to this committee, I would have mentioned to some degree, have been covered by both the chairman and Mr. Petri. I would like to go over a little bit of ground, particularly from the chairman's last question or two.

From your response, Dr. Scarr, you would say the planning schedules for an ultimate one-number census are being adhered to, and will be adhered to despite the concerns raised in Mr. Hunt's testimony today?

Mr. SCARR. I can't predict what unusual events might intervene, but it is our intention. And, yes, I believe we will be able to stay with the schedule.

Mr. McCLOSKEY. And also in another area of his testimony, he mentions in a problematic way, possibly lagging cooperative standards or basic cooperation with the Postal Service, and talks of possible legislation. Could you fill that out a little bit? Are you really getting what you need? He doesn't seem to think so.

Mr. SCARR. There are legal impediments, and there are some concerns on the part of the Postal Service, with participating as thoroughly as both they and we had hoped in this notion of creating this joint map.

What we will do, essentially, is rely on our cities and towns for map updating, as we have done in the past, and we are fairly confident we can do that with TIGER, and we will rely on past cooperation with the Postal Service, which has been very good, with respect to providing us with new addresses. The joint effort at this point in time is not yet in operation.

Mr. McCLOSKEY. And do we need legislation for this?

Mr. SCARR. Frankly, Mr. Congressman, I don't know. I don't know whether that would be necessary or not. There's—title XIII is the Census Bureau controlling title. There is some Postal Service legislation that imposes some privacy requirements on them, but I'm not sure it's in connection with this activity. So, I really wouldn't want to say. I can get back to you with a more detailed response after the hearing.

Mr. McCLOSKEY. If you could provide the committee, assuming the Chairman would think it useful, with a written analysis of whether that is desirable or not, it would help.

Mr. SCARR. I'd be pleased to do that, Mr. Congressman.

Mr. McCLOSKEY. Thank you. Thank you, Mr. Chairman.

Mr. SAWYER. Thank you. Mr. Wynn?

Mr. WYNN. Thank you, Mr. Chairman. I apologize if you've covered this earlier, but could you comment a bit about cost containment and what steps are being taken to respond to some of the criticisms that have been leveled in that regard?

Mr. SCARR. There are several ways that one can control cost. One way—assuming a mail-out/mail-back census—is to basically increase the response rate to that. We have an extensive research program going that will, in effect, reduce cost to the degree that the percentage of responses increases. That can either reduce cost or that can free funds to do something else.

We have a cost modeling program which takes a look at the various combinations of elements, and tries to forecast what the cost implications seem to be within a particular range. In general, virtually every activity we do is scrubbed to be sure that within the limits of the kind of accuracy we want, we're doing it in a most cost-effective manner. In terms of major changes, the shift to a mail-out/mail-back census, if we were to move away from that now to anything other than administrative records which has its own problems, would be an extremely more costly enterprise.

So, at the macro level, we're concerned with it and, at the micro level, that's the way we manage it.

Mr. WYNN. Could you provide at a subsequent time, a detailed breakdown of cost-control measures, and also exactly how much money you believe you can save through the implementation of these measures that you've suggested?

Mr. SCARR. Certainly, be pleased to, Mr. Congressman.

Mr. WYNN. Thank you. The other thing I'd like to pursue is, I guess, some of the nontraditional methods of collecting data, what you have in mind for groups such as the homeless, and also those that don't speak English. I have a large Hispanic and also a large Korean population in my district, and I would be concerned about undercount in those areas, as well as generally underprivileged communities that have not been responsive to traditional census data-collection methods.

Mr. SCARR. We have an elaborate research program called Barriers to Enumeration, and those are some of the barriers that we've identified. I would be pleased to provide you with more detail, but I don't think I would—would that be okay?

Mr. WYNN. That would be fine. I don't want to belabor the point, but I would like to get that information. Thank you.

Mr. SCARR. Sure, be pleased to.

Mr. SAWYER. Thank you very much. Just a couple of thoughts. The level of collaboration that we had hoped for from the Postal Service with regard to mapping leaves a vacuum. And I hear what you're saying, that you will rely on those means that have traditionally served the Bureau well, and I don't mean to diminish those, but it seems to me that there is a vacuum there that has been left by what had been hoped for in terms of a higher level of collaboration.

At this point, just by way of comment, I hope that we can look for ways to fill that void.

The second, I guess it's only fair to say that I learned of the details of the December reorganizational effort that you detailed here after the fact. I would just hope that as we go forward, that you could share those kinds of things in a timely way with the committee.

Mr. SCARR. Mr. Chairman, I regret that. We will certainly share with you in a timely way in the future.

Mr. SAWYER. Thank you very much. I appreciate your testimony today. It was thorough going, and some of us may have questions that we would like to elaborate on or submit in writing, and if you could respond to those we would very much appreciate it. Thank you.

Mr. SCARR. Be pleased to.

[The response to written questions follows:]

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY CONGRESSMAN SAWYER TO HARRY A. SCARR

2000 CENSUS

Question 1. In his testimony, Dr. Bradburn mentioned that the Census Bureau planned to request funding in fiscal year 1995 for a long term research program independent of 2000 census planning. Could you clarify the Bureau's position on this issue?

Answer. Funding for the 2000 Research and Development staff and the Task Force will end in 1995. While funding for 2000 census operational planning will begin in FY 1994 and continue throughout the decade, the focus of that effort logi-

cally will be on ensuring timely and thorough preparation for the 2000 census. Thus, if we are to continue an ongoing research effort focused on the decade beyond 2000, funding will need to be requested for that specific purpose.

GEOGRAPHY/MASTER ADDRESS FILE

Question 1. There are technical barriers facing local governments that want to give the Bureau TIGER updates in an electronic format. What is the Bureau doing to resolve those barriers?

Answer. The Census Bureau is working on several fronts to facilitate the sharing of digital geographic data, not only between the Census Bureau and local governments but also with other Federal agencies and state governments. For example:

The Census Bureau currently is working with the Advisory Commission on counties in Texas to expand the house number/street name address system for better emergency service delivery. To start the project, the Census Bureau provided copies of the 1990 census maps for approximately 200 rural counties and written procedures to use in developing the new street name and address number plans. In return, the state will provide the new address information to the Census Bureau. Using this information, the Census Bureau will update the TIGER data base and the Master Address File and provide to the Advisory Commission a TIGER Extract product to implement their emergency response (E-911) programs.

A further example of such efforts is the three-way cooperative project involving the Census Bureau, the U. S. Geological Survey, and the Washington State Geographic Information Council. Following an initial meeting this past summer to discuss the scope of a statewide update project, the Census Bureau has received locally updated files for three counties and has been experimenting with prototype software to identify the changed records and incorporate the updates into the TIGER data base.

On a more general basis, the Census Bureau organized four "working group meetings" over the past 2 years to discuss with state and local officials appropriate methodologies and procedures for electronic file interchanges. These sessions were held at the regular conventions of professional associations with an interest in such updates. As a follow-up to these meetings, the Census Bureau is working with a small group of state and metropolitan planning agencies to develop a process that will enable localities using the TIGER/Line files to share their updates and corrections with the Census Bureau. This working group is sponsored by the National Association of Regional Councils, the Urban and Regional Information Systems Association, and the National States Geographic Information Council. This group is working to resolve the technical issues and reporting on their progress at major national conferences. The meeting was held April 23-24, 1993 in Chicago, Illinois.

Question 2. GAO has testified previously that one of the most promising tasks the Postal Service could undertake is identifying the vacancy status of homes. What is the status of your discussions with the Postal Service on that activity?

Answer. In several recent meetings, the United States Postal Service (USPS) staff have informed the Census Bureau that their files contain information about the vacancy status of mail delivery addresses. The Census Bureau and the USPS currently are conducting a pilot study to compare and analyze the differences between the Census Bureau's Address Control File from the 1990 census and the USPS's address information for five 3-digit ZIP Code areas. Part of the analysis will focus on the identification of vacant units in the two systems as well as an exploration of similarities and differences in the way the two organizations define vacancy and identify units as vacant. The Census Bureau agrees with the GAO that this is a promising avenue of potential cooperation between the Census Bureau and the USPS, especially if the Census Bureau finds that it can use information on vacancy status supplied by the USPS to reduce the number of field checks required by enumerators to confirm vacancy status.

AGRICULTURE/ECONOMIC CENSUSES

Question 1. Has it been primarily large or smaller farms that have responded to the Agriculture Census so far?

Answer. As of April 10, overall response to the Census of Agriculture was 73 percent. Response does vary by size of farm. The smaller farms, those with sales of less than \$50,000, have a better early response with a 5 to 14 percent higher response rate. The larger farms continue to have a lower response rate (3 to 6 percent) until near the end of the census, where phone calls to these cases bring the response rate to the same or higher than that of the smaller farms.

Question 2. Please describe the composition of the early respondents to the Economic Census.

Answer. Early respondents to the economic censuses, those businesses filing by February 16, 1993, were generally single-establishment companies with less than 10 employees. As of April 17, the response rate for single-establishment companies was almost 77 percent, with no significant differences in response among small, medium, or large companies or companies classified in different economic sectors.

Companies operating more than one establishment traditionally respond later than single-establishment companies. As of April 17, the response rate for multiunit establishments was 48 percent. Companies with over 1,000 employees frequently request filing extensions until early May for their establishments. Consequently, we anticipate heavy multiunit receipts during May and early June. At the end of census processing, overall response rates for single- and multiple-establishment companies will be almost identical.

Question 3. Is the Bureau currently considering a change in the dollar threshold by which the Bureau defines a farm for purposes of the Agriculture Census?

Answer. The Census Bureau believes it is time to consider such a change. Many have raised the issue and suggested that a thorough and comprehensive study should be conducted. We are asking our Agriculture Advisory Committee members for their thoughts on such a study at a meeting on May 26. If they support the idea, we will make that study over the next 12-18 months.

Question 4. Has the Bureau considered the use of sampling or administrative records for the Agriculture Census, as it has for the Economic Censuses?

Answer. Administrative records are used extensively in the Agriculture Census. The Census Bureau's list of farms is supplemented by administrative lists from numerous agencies and organizations. When compiling our census mailing list, we used administrative files from the Internal Revenue Service, the Agricultural Stabilization and Conservation Service and the Forest Service of the United States Department of Agriculture, the Bureau of Land Management of the Department of the Interior, and member or producer lists from various commodity trade groups.

We also use sampling to reduce respondent burden. The longest, most detailed report form is sent to a 25 percent sample of farms, while the other 75 percent receive a shorter form. Follow-on census surveys, such as the Farm and Ranch Irrigation Survey, employ sampling techniques, as do several projects that assess how well we did including all farms and properly classifying them.

Question 5. Has the Bureau examined the frequency of the Agriculture Census, to determine whether the timing continues to be useful or necessary?

Answer. The Census Bureau has surveyed Federal and private users about their need for our data. We have an interagency committee to evaluate the need for the data items prior to each census. The last in-depth written request on frequency of the census was done for the 1982 Census of Agriculture. All Federal agencies replied that collection of agricultural data less than every 5 years would seriously diminish the quality of their work, adversely affect program administration, and make it more difficult to formulate agriculture policy.

Many Federal agencies and private firms said additional funds in their programs would be needed to fill the void of not having agricultural data available at 5-year intervals.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY CONGRESSMAN MCCLOSKEY TO HARRY A. SCARR

Question. Does the Census Bureau need legislation to work with the Postal Service?

Answer. Not at this time. However, as we explore various cooperative ventures with the U.S. Postal Service (USPS), we may need to seek legislative changes. For example, to allow sharing of the USPS and Census Bureau address lists, it may be necessary to change either Title 39 or Title 13 of the United States Code or both. Title 39 protects the confidentiality of the USPS address information by prohibiting disclosure of lists of names or addresses. Likewise, Title 13 prohibits disclosure of confidential census information about persons or addresses.

A January 14, 1993 letter from the Postmaster General to Congressman Sawyer described USPS support of a permanent change to Title 39 that would allow for sharing of their address list with the Census Bureau. It also provided some suitable draft language for the needed change. Meanwhile, we are working with the USPS to see if an interagency agreement protecting USPS address list confidentiality can be drafted to allow developmental work to proceed.

The Census Bureau is looking at what changes might be needed in Title 13 to allow us to provide our address list to the USPS for purposes of updating. The Census Bureau and the USPS also are exploring other areas of cooperation, such as identification of vacant housing units and revised addresses in areas undergoing rural address conversion. We do not foresee that these activities would require any kind of legislative action beyond what the USPS has proposed as changes to Title 39.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY CONGRESSMAN WYNN TO HARRY A. SCARR

2000 CENSUS

Question 1. What uses will you make of Administrative Records and how are you looking into these uses?

Answer. We are actively evaluating the use of Administrative Records at the national and local level as a source for coverage improvement.

At the national level, we are conducting matches of Federal files such as the Medicare Health Insurance Master Enrollment and Internal Revenue Service (IRS) 1040 Individual Master files to our 1990 census files to evaluate coverage at the census geography level. We also are comparing the addresses on the IRS file to our census address list to provide information about the use of administrative records as a source to update/maintain our master address file.

At the local level, we are using special censuses to evaluate local administrative records as a coverage improvement tool. Local governments request and fund special censuses during noncensus years for various reasons such as to validate the population count after a new incorporation. For each requested special census, we evaluate the jurisdiction's demographic characteristics to determine if we could use the special census to test census features such as the use of lists.

We are participating in two special censuses: 1) the Special Census of Godfrey, Illinois and 2) the Special Census of South Tucson, Arizona. During the special census of Godfrey, Illinois, we matched the special census data to the voter registration, school district, and tax assessment files. We have just completed field follow-up/verification of a sample of the matches, possible matches, and non-matches to learn as much as we can about administrative records as a potential coverage improvement tool. We should have a final report providing results from the matching and follow-up by the end of May of this year.

We are doing some of our record linkage research as part of a special census of South Tucson. We plan to conduct address matching, person matching, and household matching of the special census data entry file, the 1990 census file, and administrative record files. We are in the process of acquiring the following administrative record files: tax assessment, voter registration, school district, low income energy assistance program, utility (gas), Arizona Aging and Adult Administration, and the U.S. West Telephone. The final report will be issued by the end of October 1993.

We are planning a conference this summer to meet with other Federal agencies to discuss access to and use of administrative records for statistical purposes. We are holding preliminary meetings with these agencies to prepare for this conference.

We are initiating a contract to research commercially available data bases as a tool for the Census Bureau to use for improving coverage. We hope to complete our research and issue a final report by September 30, 1993.

We are beginning to investigate the role administrative records will play in a Continuous Measurement design and as a tool for coverage evaluation. These areas are still unclear and the specific research not defined at this time. We hope that we will have the research defined by the end of FY 1993. However, this will be a long-term research issue that will extend over several years.

Question 2. What are you doing in the area of cost containment, especially with the economic situation today and the current Administration's interest in cut backs?

Answer. At the hearing I emphasized that in meeting the data needs of our Nation, there are three overarching concerns that drive our 2000 design effort—to reduce differential undercount, contain costs, and keep the process open.

In some ways, the coverage and cost goals may seem to be in conflict. That is, efforts to reduce the differential undercount could require costly new programs. But these need not be opposing concepts. It does not necessarily have to cost more to improve coverage. By designing the census operations more effectively, by using information and experience garnered from the 1990 census, and by balancing the concerns of our external stakeholders, we need to look at ways to save dollars that can be reallocated to the goal of improving coverage. We do not know if we can do that

yet—but we need to make a credible try. Again, we must be willing to be adventurous in thought, and not afraid to entertain ideas that may not work out.

Question 3. Can you provide me with a detailed analysis of cost containment measures and how much data you can save with certain measures? I am particularly concerned about the homeless, language difficulties, etc.

Answer. We are examining various efficiencies in conducting the census, and we are using computer modeling to estimate the cost implications of the changes. For example, questionnaire simplification offers the opportunity for cost reductions through improved response, faster interviewing, and other factors. The utilization of the telephone and other technological innovations in data collection may yield similar benefits. We also are studying the potential cost savings from increased use of the telephone in various census operations. As the cost analyses are completed, we will make the results available. A major reason for examining efficiencies in the census process is to allow us to allocate resources where they are most needed. To improve the counting of homeless persons, those with language difficulties, and the like may require more effort than in previous censuses, and we are developing new or improved methods to do so.

Mr. SAWYER. Our second witness today is William Hunt, who is the Director of Federal Management Issues of the General Government Division of GAO.

Bill, if I knew your middle name, I'd call you W. Michael Hunt, or whatever is the traditional form of address in GAO and the subcommittee.

Mr. HUNT. Well, it's Martin.

Mr. SAWYER. We'll stick with William. It's a pleasure to have you here today. If you would identify for purposes of the record, your colleagues who join you at the table, we'd be grateful.

STATEMENT OF WILLIAM M. HUNT, DIRECTOR, FEDERAL MANAGEMENT ISSUES, GENERAL GOVERNMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE; ACCOMPANIED BY BRUCE JOHNSON, ASSISTANT DIRECTOR; AND JACK KAUFMAN, EVALUATOR, CENSUS AUDIT SITE

Mr. HUNT. Mr. Chairman, Mr. Petri, and Mr. Wynn, I am pleased to be here today to report on the progress the Bureau is making in planning for the 2000 Decennial Census. I also will provide preliminary observations on the 1992 Economic and Agricultural Censuses which are still underway.

My comments this morning are based on our continuing effort, as requested by the subcommittee, to monitor census operations. In the interest of time, I will summarize my written statement, and ask that the full text be inserted in the hearing record.

As you know, Mr. Chairman, we have strongly advocated the need for fundamental reform of the decennial census. Our recommendation is based on a large body of oversight work related to the 1990 census. The Bureau's ambitious start on preparing for 2000 census planning gave early reason for optimism that major improvements could occur. However, after almost 3 years since the last census, we are less optimistic now that such reform will occur.

We believe progress in redesigning the 2000 census has slowed to the point of jeopardizing the prospect of fundamental census reform. Our fear is that without significant progress this year, time constraints may force the Bureau to design a 2000 census with only modest refinements.

We believe that the Bureau needs quickly to set priorities by sorting out what changes are feasible for 2000, and what changes, even if not viable for this next census, hold promise for the future.

The Bureau has set a deadline of September 1993 to identify design options that it will test in 1995. We agree that this deadline is critical. The Bureau will need time to prepare operational procedures, design evaluations, and set up automated systems for the planned test census in 1995.

Without early decisions and adequate preparation, the value of the 1995 test will be diminished. The planned 1995 test is particularly critical because the Bureau is unlikely to incorporate features in the 2000 census that are not included in the 1995 test.

The Bureau's 2000 planning strategy for identifying promising census designs and features is proving to be cumbersome and time-consuming. Progress at reducing the number of design alternatives down to the two that the Bureau believes would be manageable has been very slow.

Since September 1991, the Bureau has been considering 14 design alternatives for taking a census, with the objective of winnowing those designs that are not viable for implementation in 2000.

Last June, in testimony before this subcommittee, we said that an important measure of progress for census reform would be the rate at which the Bureau eliminated alternatives that it believed could not be used in the next census.

We are concerned that some 8 months later, none of the proposed 14 design alternatives have been formally eliminated. According to the Bureau's plan, these alternatives are to be winnowed by preparing design alternative recommendations, also known as DAR's, to justify the elimination of various designs.

At the urging of the Office of Management and Budget, the Bureau announced a public review and comment process for these DAR's in the fall of 1992. The Bureau prepared an initial draft notice for the Federal Register, asking for public comment on the criteria used to evaluate the DAR's and the process to be used to evaluate the design alternatives.

As of February 24, however, the date of our testimony, this draft notice had not yet been placed in the Federal Register. We understand that as of last week the Bureau was reconsidering the winnowing process and is trying to identify ways to further streamline and accelerate its consultative procedures.

While we are encouraged by efforts to further streamline the public review process, we urge that final decisions be made soon, and be balanced against the reality of the fast-approaching September 1993 milestone. It is a real deadline that, if missed, will cause the Bureau severe problems from which it may not recover.

Organizational and budget uncertainties add further complications for the Bureau as it tries to narrow design alternatives over the next 6 months. For example, the Bureau's relationship with the Department of Commerce and OMB and the future of the task force structure created by the previous administration will be affected by changes in personnel in all three organizations.

The new teams in these three organizations, including a new Census Bureau Director, must be assembled and begin working

with each other, and decide how to manage preparations for the next census. In addition, the Bureau's fiscal year 1994 budget request, like most other agencies, will be carefully scrutinized in the current fiscal climate.

The Bureau will need to demonstrate that funds requested in 1994 for census reform, will have potentially significant payoffs over the long run. Without significant progress this year, it is very likely that only modest refinements in the 2000 census methodology will result.

The almost \$5 billion estimated price tag associated with such an outcome raises the distinct possibility that census reform will be accomplished indirectly, and perhaps exclusively, through limitations imposed by budget constraints, rather than through carefully planned and tested alternative methodologies that balance the need to meet established data needs and enhance data quality within available sources.

One particularly crucial decision that needs to be made soon is whether the Bureau will take a one-number census. A one-number census is one of the proposed guidelines that the Bureau describes as desirable.

The one-number census combines the features of both the head-count and some additional statistical methods, producing a single count before the mandated deadline. A final decision on whether to adopt that criteria and judgments on what design alternatives are compatible with the one-number census are necessary by September 1993. Testing of the procedures required to produce a one-number census should be an integral part of the 1995 test.

Based on our census work, we believe several opportunities for providing an accurate and cost-effective census need to be aggressively pursued. Last summer, in our capping report in testimony before this subcommittee, we identified three key areas requiring progress. They are responding to declining public cooperation, reducing reliance on costly, lengthy, and error-prone followup efforts, and improving address list development efforts.

The Conference Committee report on the Department of Commerce's fiscal year 1993 appropriation also charged the Bureau to aggressively pursue cost-effective alternatives for census reform, including consideration of a streamlined questionnaire and the need for greater coordination with the Postal Service.

Let me summarize for you where the Bureau's efforts are with regard to the three alternatives we suggested last year. A 1992 field test showed that a streamlined user-friendly questionnaire improved response rates. The Bureau also found that potential benefits can be gained from increasing the number of mail contacts with respondents, particularly by sending replacement questionnaires.

The Bureau now must determine the operational feasibility and policy implications of implementing these findings for the 2000 census. Because staffing and other resources were directed toward the issue of sampling for the count, the Bureau lacked resources to address the more practical use of sampling for nonresponse.

As a consequence, Bureau technical staff will now have to overcome time constraints to produce valid research results on sampling for nonresponse, by September 1993, if this approach to sam-

pling is to be included in the 1995 test census. We estimate that sampling 10 percent of nonrespondents would have saved about \$460 million in 1990.

Despite the potential for significant cost-savings, the Bureau will need to demonstrate the effects that sampling will have on data quality to Congress, if it desires legislation mandating or explicitly permitting this design.

After the 1990 census, the Bureau and the Postal Service agreed to cooperate in pursuing potential enhancements to their respective automated address lists and geographic systems. Using the Postal Service's address list would help improve the accuracy of the Bureau's mailing list by identifying vacant and invalid housing units.

We estimate that over \$300 million could have been saved in 1990 if such units had not been included in the Bureau's mailing lists. We believe that the 1995 test would provide an excellent opportunity to evaluate the feasibility and usefulness of the Postal Service's information on vacant and invalid units. Progress on this effort, however, has slowed because the Postal Service has had some second thoughts about the scope, feasibility, and legal limitations associated with the cooperative effort envisioned by the Bureau.

We urge both the Postal Service and the Bureau to continue their efforts to work together and get this important and significant cost-saving initiative back on track.

Now, I'd like to discuss very briefly the 1992 Economic and Agricultural Censuses. Based on our preliminary work, both censuses are going according to plan. For the 1992 Economic Census, the Bureau will send questionnaires to about 4 million business establishments, and plans to obtain information on the other estimated 11 million establishments by using administrative records and sampling.

The estimated cost of the 1992 Economic Census over 6 years is \$162 million in current dollars, or about \$11 per establishment. This full-cycle cost is over 60 percent higher than the cost of the 1987 census. The increase in cost is primarily attributable to expanded coverage of the service sector and inflation.

The 1992 Economic Census will include for the first time, establishments in the finance, insurance, real estate, communications, and utilities industries. These censuses, along with the Agriculture and government censuses, will now provide coverage of about 98 percent of all the Nation's economic activity, up from about 78 percent in 1987.

While the Economic Censuses were relatively unaffected by congressional action on the Bureau's fiscal year 1993 budget request, the Bureau does plan to reduce the number of followup efforts and spread processing over a longer period of time, with fewer staff. The mail response to-date has exceeded the response rates experienced in 1987.

The Agriculture Census has remained virtually the same over the past several censuses, with the exception of minor changes in questions and processing. The estimated cost of the 1992 Agriculture Census is about \$80 million, or about \$40 per farm counted.

The unit costs of the Agriculture Census are about three times higher than the Economic Censuses because the Bureau seeks responses from 100 percent of all farms with sales over \$1,000, and does not use administrative records for sampling.

The Bureau made only minor changes to the Agriculture Census plans to accommodate congressional reductions to the Bureau's fiscal year 1993 request. The Bureau did not raise the \$1,000 threshold as was discussed as a possibility at this subcommittee's hearing in Lancaster, Pennsylvania last August. Mail response to the Agriculture Census so far is about the same as it was in 1987.

Although the Economic and Agriculture Censuses appear to be going according to plan, the Bureau has much more to do to complete them, and we will continue to review the progress of each of these.

This concludes my prepared statement, Mr. Chairman, and my colleagues and I would be pleased to answer any questions you might have.

[The prepared statement of Mr. Hunt follows:]

PREPARED STATEMENT OF WILLIAM M. HUNT, DIRECTOR, FEDERAL MANAGEMENT
ISSUES, GENERAL GOVERNMENT DIVISION, GAO

SUMMARY STATEMENT

The Subcommittee asked GAO to monitor the status of Census Bureau planning for the 2000 Decennial Census and its implementation of plans for the 1992 Economic and Agriculture censuses. GAO believes progress in redesigning the 2000 Census has slowed, jeopardizing the prospect of fundamental census reform. GAO's preliminary work shows that the Bureau is successfully managing the implementation of the Economic and Agriculture censuses.

The Bureau needs to quickly set priorities by sorting out what changes are feasible for 2000 and what changes, even if not viable for this next census, hold promise for the future. The time available for fundamental census reform is slipping away. Important decisions are needed by September 1993 to guide planning for 1995 field tests, shape budget and operational planning for the rest of the census cycle, and guide future discussions with interested parties. The Bureau also must make an early decision whether to test a "one-number" census in 1995 that combines the features of both the head count and some additional statistical methods and still produce a single count before the statutory deadlines.

The Bureau's strategy for identifying promising census designs and features is proving to be cumbersome and time consuming, and the Bureau has progressed slowly in reducing the design alternatives down to a manageable number. With the exception of its field tests of methods to improve response rates, the Bureau has made limited progress on researching and developing the more promising major innovations for the next census. It will be difficult for the Bureau to follow its "winnowing" process and reduce the design alternatives to a small number by its September 1993 deadline. Unless the Bureau accelerates its research and decision-making, which will be difficult considering the organizational and budget uncertainties facing the Bureau over the next 6 months, the lack of time and the pressures to reduce spending may drive the 2000 census design. As time available for census reform slips away, GAO is less optimistic that such reform will occur.

The 1992 Economic and Agriculture censuses are going according to plan. While the Agriculture Census was changed little, the Economic censuses were expanded to include various service sector industries, increasing their coverage from 76 percent to 98 percent of the nation's economic activity. Neither of the censuses was greatly affected by the congressional reductions to the Bureau's fiscal year 1993 budget. Mail response to these censuses either approximately equaled or exceeded the 1987 experience.

Mr. Chairman and Mr. Petri and Members of the Subcommittee:

I am pleased to be here today to report on some of the major Bureau of the Census programs: planning for the 2000 Decennial Census and the Economic and Agriculture censuses. Overall, we believe the progress in redesigning the 2000 Census has slowed to the point of jeopardizing the prospect of fundamental census

reform. Both the Economic and Agriculture censuses are going according to plan. My comments are based on our continuing effort, as requested by the Subcommittee, to monitor census operations.

TIME AVAILABLE FOR FUNDAMENTAL CENSUS REFORM IS SLIPPING AWAY

As you know, Mr. Chairman, we have strongly advocated the need for fundamental reform of the decennial census. Our recommendation is based on a large body of oversight work related to the 1990 census.¹ The Bureau's ambitious start on preparing for the 2000 Census planning gave reason for optimism that major improvements could occur. However, we are less optimistic now that such reform will occur.

As we pointed out in our transition series, important decisions based on wide consultation and staff analysis are needed by the fall of 1993. These decisions are needed to guide planning for field tests of census methods and procedures scheduled for 1995, to shape budget and operational planning for the rest of the census cycle, and to guide future discussions with state and local governments and other interested groups.² Unfortunately, the Bureau's strategy for identifying promising census designs and features is proving to be both time consuming and cumbersome, and may impair the Bureau's ability to institute major innovations. With the exception of its field tests of methods to improve response rates, the Bureau has made limited progress on researching and developing the more promising major innovations for the next census.

Decisions Needed by September 1993

The Bureau has set for itself a deadline of September 1993 to identify what it will test in 1995. We agree that this deadline is critical so that the Bureau has time to prepare operational procedures, design evaluations, and set up automated systems. Without adequate preparations, the value of the 1995 test will be diminished. The 1995 test is particularly critical because the Bureau is unlikely to incorporate features in the 2000 Census that are not included in this 1995 test.

The process of planning and conducting such tests is complex and difficult. The Bureau experienced problems in the 1980s leading up to the 1990 census in preparing for its tests. The Bureau failed to provide sufficient time to prepare for 1985 test censuses designed to evaluate a two-stage census and automation. For example, as a result of insufficient preparation, the 1985 tests did not properly prepare for evaluations of the two-stage census and used off-the-shelf automated equipment that did not meet census requirements. In addition, the Bureau's 1986 test, which included an examination of alternative field and processing office structures, was done too late to influence 1990 census decisions.³

Early Decision Needed to Determine If the Bureau Can Develop a "One-Number" Census

One particularly crucial decision that needs to be made soon is whether the Bureau will take a "one-number" census. The "one-number" census combines the features of both the head count and some additional statistical methods and still produces a single count before the mandated deadlines. A "one-number" census could help avoid the controversy that recently surrounded the issue of adjusting the census count by resolving issues of statistical procedure before the actual census is conducted. With a one-number census, there will be no alternative sets of numbers and no changing set of "winners and losers" under different options.

In 1990, the Bureau developed two sets of numbers. The first set was the traditional head count produced by the statutory deadlines of December 31, 1990, for state level counts and April 1, 1991, for more geographically detailed data. The second set of adjusted numbers attempted to compensate for the undercount and were reported in July 1991. The 1990 strategy of producing two sets of numbers consumed considerable resources and planning effort, affected the overall operation of the census, and provoked considerable controversy and litigation. The adjusted set of numbers could not be completed by the statutory deadlines, and the adjustment-related activities delayed several important evaluations of the 1990 census planned for use in 2000 Census planning. These activities did not result in any changes in the 1990 census counts, although the work done for a possible set of adjusted num-

¹ *Decennial Census: 1990 Results Show Need for Fundamental Reform* (GAO/GGD-92-94, June 9, 1992); *Decennial Census: Opportunities for Fundamental Reform* (GAO/T-GGD-92-51, June 10, 1992).

² *Transition Series: Commerce Issues* (GAO/OCG-92-12TR, Dec. 1992).

³ *Decennial Census: Pretests Could Be Used More Effectively in Census Planning* (GAO/GGD-87-24BR, Jan. 8, 1987).

bers provided a rich body of research data on coverage problems for future census planning.

The Bureau has proposed assessing various alternative census designs by the likelihood each design could produce a single set of counts and characteristics by the statutory deadlines. A final decision on whether to adopt that criteria and judgments on what design alternatives are compatible with a one-number census are necessary by September 1993. Testing of the procedures required to produce a one-number⁴ census should be an integral part of the 1995 test.

Slow Progress Winnowing Design Alternatives

The Bureau has set up a cumbersome process that is taking too much time trying to justify the elimination of design alternatives. As a consequence, little time remains to focus on the selection and development of more promising ones.

The Bureau's March 1991 plan identified various design features for the 2000 Census. These features included such innovations as various new uses of sampling; simplified questionnaires and content; and the use of administrative records, modeling and estimation. In September 1991, the Bureau grouped these features and others into 14 design alternatives. The Bureau has been considering these 14 design alternatives for taking a census with the objective of eliminating or "winnowing" those designs that are not viable for implementation in 2000.

We testified before the Subcommittee in June 1992 that a key measure of continued progress would be the rate at which the Bureau rejects design alternatives for use in the next census. We said that to make progress on fundamental reform, the Bureau must concentrate its time and efforts on the early identification of the most promising design alternatives for 2000. Specifically, we testified that if the full spectrum of 14 possible alternatives were still being considered 1 year later, the possibility for meaningful change for 2000 would be severely diminished.⁴ Eight months later, none of those proposed 14 design alternatives has been formally eliminated.

These alternatives are to be "winnowed" by preparing design alternative recommendations (DAR) to justify the elimination of various designs. Before these DARs are finalized, they must undergo a rigorous review process by a Commerce Department task force consisting of three committees. At the urging of the Office of Management and Budget (OMB), the Bureau announced a public review and comment process for these DARs in the fall of 1992. The Bureau has prepared a draft notice for the Federal Register asking for public comment on the criteria used to evaluate the DARs and the process to be used to evaluate the design alternatives. The process would have each DAR made available to the public through publication in the Federal Register and presentation to the two panels of the National Academy of Sciences looking at 2000 Census issues, the Bureau's standing advisory committees, the congressional oversight and appropriations committees, and meetings and conferences of public and professional organizations.

As of February 24, this draft notice had not yet been placed in the Federal Register. Whatever public review process is adopted, we believe the plans for outside review and comment and the administration's internal decision-making processes need to be designed and conducted with the September 1993 milestone in mind. It is a real deadline that, if missed, will cause the Bureau severe problems from which it may not recover.

Organizational and Budget Uncertainties Jeopardize the Bureau's Ability to Make Decisions

The next 6 months present the Bureau with numerous organizational and budget uncertainties. These uncertainties will make it difficult for the Bureau to follow its "winnowing" process and reduce the design alternatives for testing in 1995 to two by September 1993.

The Bureau's relationship with the Department of Commerce and OMB and the future of the task force structure created by the previous administration will be affected by changes in personnel at all three organizations. The new teams in these three organizations must be assembled and begin working with each other and decide how to manage preparations for the next census. The future of the Bureau's various standing advisory committees, including the one seeking outside advice on decennial census issues, is an open issue given the new administration's announced intention to reduce the total number of advisory committees. Within the Bureau, additional organizational uncertainty exists as it awaits the appointment of a new

⁴ *Census Reform: Major Expansion in Use of Administrative Records for 2000 is Doubtful* (GAO/T-GGD-92-S4? June 26, 1992).

Director and the development of the organizational arrangements for managing the next census.

Also, the Bureau's fiscal year 1994 budget request faces considerable uncertainty considering the strong pressures to reduce spending. The fiscal year 1994 budget will be crucial to 2000 Census planning because 1994 will be a key year for preparing for the 1995 tests.

The Bureau Must Accelerate Research and Decision-making

Unless the Bureau accelerates its research and decision-making, the lack of time to test and consider fundamental changes, as well as future pressures to reduce spending, may drive the 2000 Census design. Without significant progress this year, time constraints may force the Bureau to design a 2000 Census with only modest refinements. Future budget reductions may force it to make drastic changes in its census design without adequate time for preparation. To best resist budget reductions that cause last minute design changes, the Bureau should have in place census reforms that demonstrate to those who control the federal purse strings that census costs are under control while meeting other important census goals.

The 1990 census cost \$2.6 billion over 10 years. Costs per housing unit were 25-percent higher than the unit costs of the 1980 census—even adjusting for inflation and workload growth. Bureau planning staff estimated that if the current approach to taking the census is retained for 2000, the costs could rise to about \$4.8 billion in current dollars. Investments made now to research and test census innovations and reforms could yield relatively large savings in the future.

While the actual 2000 Decennial Census seems far in the future, little time remains in this decade for developing design options and implementing procedures. The Bureau needs to quickly set priorities by sorting out what changes are feasible for 2000 and what changes, although not viable for this next census, hold promise for the future. Historically, it has taken the Bureau more than 1 decade to incorporate fundamental changes, such as the evolution to the mailout/mailback method over three decennial censuses. Those desirable features that may not be viable until 2010 should be developed sufficiently for experimentation in 2000 as a transition to the 2010 census.

Research and Development of Promising Opportunities Is Lagging

We believe several opportunities for providing an accurate and cost-effective census need to be aggressively pursued. We have previously identified these opportunities as (1) responding to declining public cooperation; (2) reducing reliance on costly, lengthy, and error-prone follow-up efforts; and (3) improving address list development efforts.⁵ The Bureau's design alternatives acknowledge the importance of these opportunities. We believe that limited progress in some of these key areas, however, indicates that research for redesigning the 2000 Census has slowed, and important opportunities for reform may be lost.

Progress Made in Research to Improve Public Response Cooperation

To its credit, the Bureau has appropriately conducted research on improving public response rates through changes to questionnaire design, content, and presentation. Public cooperation is essential to obtaining accurate results at a reasonable cost. Field test results from making the questionnaire more userfriendly and asking fewer questions showed improved response rates. The Bureau has also determined what potential benefits can be gained from increasing the number of mail contacts with respondents, particularly sending replacement questionnaires. The Bureau now must determine the feasibility of implementing these findings for the 2000 Census.

If the Bureau decides to reduce the number of census questions in order to increase response rates, it may face considerable opposition, from other federal agencies, state and local governments, and other data users from the private sector. In fiscal year 1993, the Bureau initiated exploration of ways to meet these data needs through alternative sources. One possible alternative is new or expanded surveys conducted through the decade between censuses. We do not expect, however, that by September 1993 the Bureau will be able to have developed this alternative sufficiently to satisfy data users or itself. The lead times for changes in the current population survey or to develop other similar large-scale surveys require several years. Another possible alternative was administrative records. But we testified last June that a major expansion in the use of administrative records for 2000 is doubtful.⁶

⁵ *Decennial Census: 1990 Results Show Need for Fundamental Reform* (GAO/GGD-92-94, June 9, 1992) and *Transition Series: Commerce Issues* (GAO/OCG-93-12TR, Dec. 1992).

⁶ *Census Reform: Major Expansion in Use of Administrative Records for 2000 Is Doubtful* (GAO/T-GGD-92-54, June 26, 1992).

Furthermore, the Bureau has significantly reduced its funding for administrative records research in fiscal year 1993 in reaction to reductions to its budget. For these reasons, we believe the Bureau will face a difficult choice between satisfying data users and attempting to improve public cooperation by reducing the number of questions.

Late Start in Evaluating Sampling for Nonresponse

Although the Bureau has investigated using sampling as a substitute for the traditional head count, it only recently initiated research on the more practical option of sampling those households that do not respond to the census questionnaires. We have reported that the Bureau could reduce the cost of the census and possibly improve the quality of data by substituting sampling for costly, time-consuming, and error-prone follow-up efforts.⁷

From the outset, sampling for the count did not appear to be a viable option because of estimated high rates of error at lower geographic levels. The Bureau's research validated this. Also, it is thought by some not to meet the constitutional requirement that an "enumeration" be conducted every 10 years. Nevertheless, the Bureau's decision to focus on this use of sampling was in keeping with the Bureau's strategy of eliminating those designs having least promise.

Because staffing, time, and other resources were directed toward the use of sampling for the count, the Bureau lacked resources to address the use of sampling for nonresponse. As a consequence, Bureau technical staff will have to overcome time constraints to produce valid research results on sampling for nonresponse by September 1993 if this approach to sampling is to be included in the 1995 test census. The Bureau should be prepared to demonstrate the value of sampling to Congress if it desires legislation mandating or explicitly permitting this design.

Reduced Scope of Cooperative Effort With the Postal Service May Limit Opportunities to Improve the Census Address List

After the 1990 census, the Bureau and the Postal Service agreed to cooperate in pursuing potential enhancements to automated address lists and geographic systems. The Bureau needs to update its address list from 1990 and its automated geographic information system (GIS). The Postal Service had plans to automate its system for planning mail delivery routes by using an automated GIS. Under the Bureau's proposal, the Bureau was to share with the Postal Service its GIS data, enhanced to meet special Postal Service needs in return for postal Service assistance in updating the Bureau's GIS and automated address list.

Now it appears that the initial cooperative strategy as envisioned by the Bureau will be reduced in scope, which may lead to missed opportunities for the Bureau to build upon investments in these automated systems made for the 1990 census. Recently, the postal Service decided that the cooperative arrangement with the Bureau would be costly and that the Bureau's GIS or any other would not add enough value to their current methods for planning mail delivery routes. The Bureau still remains hopeful that the Postal Service will be able to provide it with continuously updated automated address files. Under this alternative arrangement, however, the Bureau will not have updated geographic information to physically locate addresses the Postal Service provides for new streets and developments.

An added advantage of using the Postal Service's address lists is that they identify vacant and invalid housing units. We have estimated that several hundred million dollars could have been saved in the 1990 census if vacant and nonexistent units had not been included in the original mailings.⁸ The 1995 test would provide an excellent opportunity to evaluate the feasibility and usefulness of the Postal Service's information on vacant and invalid units.' Also, the Bureau has yet to conduct field tests on how to reconcile the differences between the Postal Service's address list and its own automated address and geographic files.

Legal questions remain about the Bureau and the Postal Service sharing address lists with each other. The Postal Service has raised concerns regarding its legal authority to provide name and address information to the Bureau. The Postal Service has suggested that legislation may be required to allow the free exchange of files between it and the Bureau.

Left to themselves, the Bureau and the Postal Service may each lack sufficient incentives to cooperate to the fullest extent possible for public benefits that may transcend the interests of either agency. We believe that both agencies should con-

⁷ GAO/GGD-92-94, June 9, 1992.

⁸ GAO/GGD-92-94, June 9, 1992.

tinue to explore ways to cooperate in the development, maintenance, and updating of Bureau address and geographic files.

1992 ECONOMIC AND AGRICULTURE CENSUSES GOING ACCORDING TO PLAN

As you requested, I will now discuss our preliminary work on two other major Bureau programs, the 1992 Economic and Agriculture censuses, with a focus on the extent of innovations and changes, the effects of the 1993 budget reductions, and the level of the response to the Bureau's mailings.

Status of the 1992 Economic Censuses

The Economic censuses are conducted every 5 years and provide a detailed portrait of the nation's economy from the national to the local level. The eight major components of these censuses are (1) retail trade; (2) wholesale trade; (3) service industries; (4) financial, insurance, and real estate industries; (5) transportation, communications, and utilities; (6) manufacturers; (7) mineral industries; and (8) construction industries. For the 1992 Economic censuses, the Bureau will send questionnaires to about 4 million business establishments and plans to obtain information on the other estimated 11 million by using administrative records and sampling.

The estimated cost of 1992 Economic censuses over 6 years is \$162 million in current dollars or about \$11 per establishment. This full cycle cost over 60 percent higher than the cost of the 1987 census. The increase in the cost is primarily attributable to expanded coverage of the service sector and inflation. The 1992 Economic censuses will include for the first time establishments in the finance, insurance, real estate, communications, and utilities industries. These censuses will now provide coverage of about 98 percent of all the nation's economic activity—up from about 78 percent in 1987. Several changes also were incorporated to try to improve mail response. For example, the Bureau surveyed how companies maintain their data to make filling out the questionnaire easier, made personal contacts with 11,000 of the largest companies, and established a more elaborate data collection operation that stressed the mandatory nature of the census and increased telephone follow-up operations (including the use of a toll-free number).

The Economic censuses were relatively unaffected by the congressional action on the Bureau's fiscal year 1993 budget request. The Bureau plans to reduce the number of follow-up efforts and spread processing over a longer period of time with fewer staff. These changes will accommodate in part a 3-percent across-the-board reduction in funds allocated to this project by the Bureau as a result of congressional action.

As of February 19, 1993, response rates were better than in 1987.

Status of the Agriculture Census

The Agriculture Census also is conducted every 5 years and is the major source of data about the structure and activities of all the nation's farms that, for statistical purposes, consist of any place from which at least \$1,000 of agricultural products were produced and sold, or normally would have been, during the census year. For the 1992 Census, the Bureau mailed 3.55 million forms to possible farming operations and eventually it expects to count about 2 million farms that meet its statistical definition.

The estimated cost of the 1992 Agricultural Census is about \$80 million or about \$40 per farm counted. The unit costs of the Agricultural Census are about three times higher than the Economic censuses because the Bureau seeks responses from 100 percent of all farms with sales over \$1,000⁹ and does not use administrative records or sampling.

The Agriculture Census has remained virtually the same over the past several censuses, with the exception of minor changes in questions and processing. For the first time, the Bureau plans to follow up using computer assisted telephone interviewing for a projected 120,000 large farms. The Bureau is testing on a very limited basis the use of film optical sensing device for input to computer (FOSDIC) data capture technology developed for the decennial census.

The Bureau made only minor changes to Agriculture Census plans to accommodate congressional reductions to the Bureau's fiscal year 1993 request. The Bureau did not raise the \$1,000 threshold as was discussed as a possibility at this Subcommittee's hearing in Lancaster, Pennsylvania, last August. Budget reductions resulted in some changes such as a reduced mail-out from 4 million to 3.55 million ques-

⁹ In 1987 almost 25 percent of these farms sell less than \$2,500 in agricultural products, and almost 50 percent sold less than \$10,000.

tionnaires, eliminated one series of advance reports, reduced the number of mail-out follow-ups from five to four, and delayed some census processing.

The 1992 agricultural census is proceeding on schedule. As of February 20, 1993, the response rate was comparable to that of the 1987 census.

Although the Economic and Agriculture censuses appear to be going according to plan, the Bureau has much more to do to complete them. We will continue to review the progress of each.

This concludes my prepared statement. My colleagues and I would be pleased to answer any questions.

Mr. SAWYER. Thank you very much. Can we get down to two designs by September, two designs that hold substantial promise for improvement with testing?

Mr. HUNT. Being quite honest, Mr. Chairman, I think at the present pace, it's very problematic. I think things are going to have to pick up, and that's one of our major messages here this morning.

The Bureau is going to have to change the focus and emphasis away from elimination, to greater emphasis on selection. And I think given the time constraints—

Mr. SAWYER. When you say selection, you don't mean selection of whole designs, you mean selection of—

Mr. HUNT. Not necessarily. I think—

Mr. SAWYER [continuing]. Component elements.

Mr. HUNT. I think selection of components, or features, as I think they generally refer to them. I think that they're going to have to change their emphasis. There's got to be, really, a greater sense of urgency. Given the time constraints and given where things actually stand, it's very possible that whatever comes up, there are going to be some people that are probably not going to be totally happy. But if we do nothing, I think there's a greater chance that there's going to be greater dissatisfaction. It will be a real lost opportunity for us in terms of census reform.

The Bureau needs to emphasize selection, and I think it needs to work with all the various stakeholders to try to build as much consensus as possible. That's where I think the energy should be placed.

I've always felt that the 2000 census can be characterized somewhat as a "transition" census. I think there are a lot of things that probably need to be done to change the census, and I don't believe that every change can be accomplished in one census.

I think there are clearly going to be opportunities out there for improvements that are not going to be possible for 2000, but are still viable and still hold great promise for the future. I think we need to continue studying those. And as you said, Mr. Chairman, I think we ought to use the 2000 census as a great opportunity to test some of these ideas. If we get positive results, I think then we can use those results and incorporate those further changes in future censuses.

The key is, the Census Bureau is not going to get there from here, unless we change the paradigm. The Bureau has got to have a greater sense of urgency.

Mr. SAWYER. If we were in an automobile race, we'd say we're outrunning our headlights. We can only see so far down the road, but we're traveling faster than our reaction time lets us react to how far we can see.

When you talk about that, we're really talking about extending the 10-year horizon to 15 or even 20.

Mr. HUNT. I see a continual improvement process, actually.

Mr. SAWYER. I asked Dr. Scarr about the arenas for priority research. I noted when you were talking, you talked about sampling for nonresponse as a particular area of focus that holds promise both for cutting costs and increasing accuracy perhaps most within targeted populations and the vacancy updates.

If I were to pick out two areas to concentrate on research in the course of time that we have remaining, would those two be where you would focus, or would you focus elsewhere?

Mr. HUNT. Well, I would probably focus on—if I could add one more—three. I think the census content issue is certainly a key one. I must admit, though, that we have very little time left here to be able to resolve that. I mean, there are a lot of stakeholders out there who are going to be involved in this process. I think it was in December that OMB sent out a memorandum to all Federal agencies, asking for their input in terms of what census content they thought would be required for their purposes.

You know, Mr. Chairman, this is not new to the Bureau. These discussions have been going on for a long time. And I don't mean to sound critical of the Bureau in this case. But I think that because a lot of these questions transcend the Bureau, it's really a larger, corporate, Federal problem.

We really need to start addressing the content issue. I'm not sure that we're going to be able to resolve it completely in the next 6 months; in fact, I doubt very seriously we will. But I think it is something that's worth some examination. The continuous measurement option that the Bureau is talking about may hold some possibilities in the future here—provided you can get people to come together and agree, get the stakeholders to buy in, and trust that if we do diminish or reduce the size of the census questionnaire in 2000, to some degree, that the alternative surveys will, in fact, be done, and will be funded.

I think there's a lot of concern that you ride the train that's leaving the station, rather than cast your hopes that maybe you'll get a ticket on the next train. So, I think there's a lot of that that needs to be worked out, and I think that's important.

I think there's no question, as I said, that using sampling techniques for nonresponse followup is very valuable. I also think working with the Postal Service not only in updating the address lists and getting rid of the vacant and invalid units, could save a lot of money. Also there are other possibilities that I think Dr. Scarr mentioned. So, I think those are things I would do.

Mr. SAWYER. You're absolutely right, obviously, about the investment in content. There are an awful lot of folks out there who are counting on the continuity of data that has been developed over the decades. But it seems to me that if there is a single area that holds the broadest possible promise for immediate reform concurrent with and immediately following the 2000 census, that it is in beginning to choose those things that we need to measure more frequently as opposed to more precisely.

Mr. HUNT. We would absolutely agree with that, Mr. Chairman.

Mr. SAWYER. Let me turn to Congressman Wynn at this point. I have a followup question I want to ask you, but I want to frame it.

Mr. WYNN. Thank you, Mr. Chairman. I'm obviously new to much of this material, and at the risk of moving to the realm of micromanagement, I'm concerned about this process involving the 14 design alternatives that have not yet been winnowed down, and you've basically given us, I think, a candid assessment that it's not going to happen, and that an alternative strategy emphasizing selection ought to be pursued. That's fine, but my concern is we just kind of brushed past this.

So, I'm compelled to ask the question, what went wrong? Why is this happening? If you will, who is at fault? And I'm not trying to put you on the spot, but I think this is the kind of thing that the public is concerned with. Why hasn't it happened? Because what I'm basically hearing, in a very quick summary of these proceedings, is that we're not going to make the kind of reform that we knew we should have made, and I think that's pretty distressing. I would just like you to comment on that.

Mr. HUNT. Well, I'm not sure I would be able to say who's to blame, other than to say I think that the processes that were set up originally were sound, I think. I think the Department of Commerce set up at least three advisory committees. We have the National Academy of Sciences that has two very talented panels working on this area. Certainly, this committee in particular has strong oversight.

I think one of the things that probably has happened is, that there's a lack of a sense of urgency. The Bureau has many strengths, but one of its weaknesses has been, in my judgment, is that it has a very collaborative and sort of collegial management style. Organizational responsibility, I think, is dispersed. And I think that those kinds of characteristics contribute to slow decisionmaking. The process slows down, and I don't think that things change very much.

But my hope is, and what I'm trying to say here today is, we need to change. We need to get this thing into a different gear, and we need to start focusing on what we think we really can do for 2000. Those things we know we can't do for 2000, let's kind of put them on a second priority, and those that still hold promise, let's continue the research on those for the future.

I think one of the real strengths—and I want to make this balance—one of the real strengths of the Bureau—is that there are a lot of very dedicated, talented, and capable people. They've done a lot of good things over time. They are dealing with a major area here that affects all of our lives, and I think they can't necessarily be doing it alone. I don't think they've tried to do it alone. I just think, I'm not sure exactly why, but there is not that sense of urgency. I have not seen that sense of urgency in this process. I hope that tries to answer your question.

Mr. WYNN. And I appreciate it because I think you are—is it safe to then conclude that this is a matter of the management, the individuals responsible for management there?

Mr. HUNT. Well, of course, we've had a change of leadership, and people who were involved in the early days of census reform and who were leading the effort, are no longer there.

I've always had a concern—in fact, this is one of our concerns that we've testified on many times before this subcommittee—that old habits are hard to break. I've just seen at times an awful lot of—I don't want to sound too pejorative here, but I'll probably come across that way—"paralysis through analysis". And I sense that we really need to change that.

I mean, if we're going to have anything at all happen in 2000 that's going to make a difference in the census, we're going to have to do it now. Because I'm convinced, I really am convinced, that there's a very strong possibility, if we don't take a measured and planned strategy here to fix the census for 2000, at least a start, an investment, a down payment on census reform, we may well have a back-door de facto reform by simply the practical limitations of the dollars that are available, the amount of money that the administration and this Congress are prepared to invest in the census.

So, then you have a situation where you have less control, even less certainty as to what the quality of the data is going to be, and I think that's a problem. So, that's what our message is. We need to change. We need to get everybody in high gear, and I mean as soon as possible. I think it would be useful to have Bureau director in there. I think——

Mr. SAWYER. Details. Details.

[Laughter.]

Mr. HUNT. As well as leadership at the Department of Commerce. I think the administration has to do what it can to get other Federal agencies and other stakeholders involved in this process to support the Bureau. The Bureau cannot do this all by itself. It needs all of our help.

Mr. WYNN. Thank you very much. I appreciate your candid and forthright comments.

Mr. HUNT. Thank you.

Mr. SAWYER. Let me ask you, short of the obvious need to have a director as soon as possible, at another time in the decade, having a director in place might not be so critical, but it is clearly a critical question now. The policy leadership necessary to make some of the decisions that you're talking about and we're talking about, really has to be done no matter how fine the professional career service at the Census Bureau, is that a policy question.

Mr. HUNT. Absolutely.

Mr. SAWYER. What are the most critical policy questions that need to be answered by that director as soon as possible?

Mr. HUNT. Well, I think there are several things. I think there are some management things that need to be done. I think we need the support and the leadership that only a Bureau director can provide, to bring together the various units in the Census Bureau and to give voice to their concerns outside the Bureau. So, we need that leadership component, there's no question about that.

I think, specifically, though, I think we still need to focus on specific features that need to be examined and make sure that the resources are shifted to selection. Investments must be made in those kinds of initiatives and those kinds of features that hold great promise, or potential promise, for 2000. Then we need to decide on what are those promising but yet clearly not likely targets of opportunities that can't be done in 2000, but that hold promise for

the future, and make sure there's investments in those, and make sure that the 2000 census is a bully testing ground, if you will.

We at GAO have felt for sometime that one of the missed opportunities in 1990 was the fact that not enough testing was done in that census. So, there are just so many things that I think we need to do. But leadership is the key here. We need somebody to make decisions.

Mr. SAWYER. Well, clearly, we found, in 1990, some of those traditional methods that no longer were as effective as they had been in the past. If there was a test that came out of 1990, those are the lessons that we learned, and we know a great deal about where to concentrate and target many of our efforts.

I just have one more question, then I have some more detailed questions I'd like to follow up with in writing. Particularly with regard to the development and sharing of address lists, perhaps a detail, but an important one in how effective we're able to be particularly in some of those areas where we may have fallen down in 1990.

You mentioned legal questions. Clearly, there may be questions about downstream sharing of lists from Bureau to Postal Service. Did I gather from what you said that there is also a potential upstream problem in the Postal Service sharing lists back?

Mr. HUNT. Yes, there is, I think, on both sides there is a question. And I think—I'll ask Jack to speak to this because I think it was in 1984 they ran a test, in a cooperative effort between the Bureau and the Postal Service. I believe at that point they had to have special legislation to permit the Postal Service to exchange or make available its address lists to the Bureau, but that was just temporary legislation for purposes of that test.

Let me just also quickly say—I do want Jack to comment on this—that given where things are, it's incredible. I mean, we need to look at ways of getting rid of these kinds of barriers. We also need to protect privacy, there's no question about that. I'm not saying that we should have a free-flow of information across any boundaries. But I think we need to look at opportunities that make good, common, business sense, and I think this may well be one of them.

Mr. SAWYER. Privacy for its own sake, and confidentiality for the sake of the trust that we need to place in an instrument of this magnitude.

Mr. HUNT. Exactly. But maybe Mr. Kaufman would like to add something to this.

Mr. KAUFMAN. In 1984, the Bureau did a test, probably at GAO's urging, that they consider the Postal Service developing the address lists. Now, legislation was required for this, and that piece of legislation was attached to an appropriation bill. I think it was at the urging of this subcommittee. So, that gave them special ad hoc authority to do it.

Mr. SAWYER. Do we need to contemplate that now?

Mr. KAUFMAN. That's a legal question that I'm not prepared to answer, but I think viewing the responses, it certainly is something that has to be considered right now.

Mr. SAWYER. Thank you very much. I appreciate the effort that went into making this testimony possible, and the testimony itself. Thank you all.

Mr. HUNT. Thank you.

Mr. SAWYER. Our final witness this morning is Dr. Norman Bradburn, who is the chairman of the so-called Methods Panel, the Panel to Evaluate Alternative Census Methods, of the National Academy of Sciences. He also spends part of his time at the University of Chicago. It's a pleasure to have you here today.

STATEMENT OF DR. NORMAN BRADBURN, CHAIR, PANEL TO EVALUATE ALTERNATIVE CENSUS METHODS, COMMITTEE ON NATIONAL STATISTICS, NATIONAL ACADEMY OF SCIENCES

Mr. BRADBURN. Thank you, Mr. Chairman. This is my first time in this role, so if I don't observe the proper protocol or traditions of this august body, call me to order. One of them I just noticed with the previous witnesses is to say that I will essentially speak from my notes, and hope that my written testimony will be read into the record.

Mr. SAWYER. Without objection, all of the testimony that has been presented today will be entered in its entirety, although yours is really very well focused, and feel free to present it as is most convenient.

Mr. BRADBURN. Thank you. I would like just to pick out some of the points that I'd like to emphasize and, at the end, I'd be happy to answer questions, and also, if you wish, I'd be happy to make a few comments on the preceding exchanges and comments.

My name is Norman Bradburn. I serve as the chair of the Panel on Evaluating Alternative Census Methods of the National Research Council. This is one of two panels which was established in conjunction with the Decennial Census Improvement Act, to look into alternatives in planning for the census 2000. One panel, on census requirements, looks at some of these questions, content questions, which you were referring to just recently. That's chaired by Dr. Schultze of the Brookings Institution, and I believe he testified before this committee at one of your previous meetings.

I chair the Panel on Methods, and we are looking not only at what are feasible methods for 2000, but also beyond—that is, for 2010, 2020, and perhaps even beyond. We certainly agree with the thrust of the remarks made this morning, that if radical changes are to be made, they are not going to be fully implemented in 2000, and one has to think about not only what changes you make in 2000, but really testing out some kinds of things for 2010.

Our panel has essentially four basic tasks. One is to identify designs to be investigated in the near-term; a second is to evaluate proposed research on census design; a third is to evaluate the results of this research and the selection of census design for further consideration, particularly what we've been talking about today, the two that will be done in a full field test in 1995; and, fourth to recommend designs and research to be developed for 2010 and beyond.

The panel has met three times, and we broke up into four working groups which have been meeting with census staff. These more

or less parallel the four components of more radical change that one might be considering—that is, one that deals with minimal content and multi-stage alternatives, the rolling census, things of that sort; one that deals with alternative response modes and barriers to enumeration; one that deals with administrative records; and one that deals with coverage and coverage measurement problems, particularly sampling and the use of statistical estimation.

Appended to my testimony are our formal responses to the two DAR's that have been forthcoming so far. Let me just summarize those quickly.

The first is, as Dr. Scarr mentioned, we did agree with the Bureau's recommendation to remove the candidate designs identified in DAR 1 and 2 from consideration for use in 2000, with the qualification, an important qualification, that research on these options should continue in order to permit more comprehensive evaluation for 2010, since administrative records was one part of that.

The second point we made was that we questioned the Bureau's criteria for rejecting designs, and suggested moving away from the fatal flaw approach to winnowing designs—again, this is something which we were happy that the Bureau has moved away from.

While we agreed with the recommendation eliminating designs that provide for only basic headcounts of the population, we did suggest that the Bureau continue undertaking evaluation of the full range of consequences that would result from the use of these designs for the 2000 census. Such an evaluation would not only provide a more concrete assessment of the feasibility of the designs for censuses beyond 2000, but will assist in establishing whether other alternatives, such as variations of a continuous measurement design, do, in fact, constitute viable and cost-effective options. So, while I don't think that's really useful for 2000, it's something that needs to continue to be thought about.

With regard to DAR 2, which recommended eliminating two designs that rely on administrative records as the primary response option, the Panel agreed that there's no combination of administrative records systems that could provide the race information needed to produce voting rights data equivalent to those that were developed for the 1990 census, or even a reduced set using only the Office of Management and Budget's five minimum racial ethnic categories. The Panel's main concern with DAR 2 was that it failed to look beyond 2000.

We made four recommendations concerning further consideration of the use of administrative records. First, that the Bureau initiate a separate program of research of administrative records focusing primarily on 2010 and on the current estimates programs. The research program should be funded separately from the 2000 census and development activities, but there should be a close liaison between them.

Second, the Bureau should undertake a planning study in collaboration with other agencies and outside contract support, if needed, that would develop one or more detailed design options for a 2010 administrative record census. This study would have two major goals: To identify the steps that would need to be taken early in the decade to make a 2010 administrative record census possible, and to set the stage for a national debate on the desirabil-

ity of an administrative record census. And I think that's an important point that needs not only to be something, obviously, the Bureau needs to do, but something a larger group, perhaps something this committee might be instrumental in, and we urge that this study be done right away.

Third, the Bureau should seek cooperation of Federal agencies that maintain key administrative records systems, particularly the IRS and the Social Security Administration, in undertaking a series of experimental studies using administrative records such as special censuses and related projects, starting as soon as possible, and including one concurrent with the 2000 census—again, thinking of the 2000 census as a pretest.

The fourth point, the Bureau should give priority to the use of administrative records in 2000 census for those purposes for which such usage is still feasible, such as coverage and content improvement and coverage evaluation.

Now, I'd like to mention several issues that we've discussed recently, and will be pursuing in the next few months. Two areas that seem broadly relevant to the 2000 planning effort are: address list development and unduplication research.

Our Panel has been struck by the central importance of address list development to virtually all designs for the 2000 census, and we're considering the implications for continuous updating of the Census Bureau's current Master Address File.

We learned at our February meeting that the Bureau's 1990 address file could serve as a base for the year 2000 file, and that address file updating will be included as an item in the fiscal '94 budget.

Further, we understand that the U.S. Postal Service remains interested in joint work on address list development, but without the geographic component provided by the TIGER system.

Also, the Panel has observed that offering multiple options for responding to the census, such as use of telephone and distribution of questionnaires at public places, would require aggressive research on unduplicating techniques so that households with multiple responses are not counted more than once.

Multiple response modes, including special methods for counting hard-to-enumerate populations constitute a set of methods that could be adapted to many of the remaining alternative census designs.

We are aware that the Census Bureau conducts ongoing research on unduplication, and we will be assessing whether this program should be expanded. I think this is one of the areas where some investment now would pay off later.

We are concerned with the conceptual issue of tradeoffs in census designs and the degree of public recognition about these tradeoffs. For example, cost and differential coverage, which we mention here as the two criteria that the Bureau is currently focusing on, have both been cited as major criticisms of the traditional method of doing the decennial census, yet efforts to improve the differential undercount may not be compatible with objectives of reducing unit costs.

Traditional approaches have usually expended additional effort in improving the enumeration of low-response areas, thereby increasing the cost of census data collection.

The Panel is considering whether there are new ways to improve coverage without dramatic increases in costs. I might add that there are other tradeoffs, just to get them all out on the table. One has already been mentioned in passing. The use of records, for example, administrative records, will reduce costs, but they have confidentiality problems. This presents another kind of tradeoff between the problems of reducing costs and preserving confidentiality.

Sampling, for example, reduces costs and probably, in many instances, will improve coverage, but may have credibility problems and legal questions, if that's a problem in a certain area—for example, the question of sampling for nonresponse.

We're examining key methodological issues in the area of coverage measurement. The Panel is looking at the relative merits of estimation and adjustment techniques similar to those used in the 1990 post-enumeration survey versus proposed techniques for integrated coverage measurement to produce a one-number census.

A one-number census would yield a single set of data by mandated deadlines instead of producing, as in 1990, unadjusted counts by the legal deadline and adjusted counts somewhat later.

There are attendant political issues as well as technical ones. One of the technical issues is whether adjusted counts for small geographic areas should sum to adjusted counts for larger aggregated regions, such as tracts and larger areas, using different bases for adjustment.

While such consistency may have intuitive appeal, the Panel is exploring whether that should be a technical requirement for the 2000 census methodology.

Following the recommendations in our letter report, the Panel is assessing the desirability of using administrative records for coverage evaluation in the 1990 census test. As a related point, the Panel has observed that the shortcomings of current administrative records systems for purposes of a decennial census can be attributed in part to the failure to consider possible statistical uses at the time of systems design. This is an area that gets into some of the questions alluded to earlier about the cooperation between different agencies that have different missions, and they don't always organize their systems so as to be useful to others.

There appear to be potential benefits that might accrue from improved coordination among Federal agencies. I cited examples of possible work with the Postal Service on address list development, and with the Internal Revenue Service and Social Security administration on statistical uses of administrative records.

The Panel has speculated on what might be done to increase the level of cooperative research and what role the Office of Management and Budget might play in facilitating interagency work.

Finally, we learned at our meeting last month that the Bureau will submit a budget initiative to form a long-term census research staff in fiscal 1995. The Panel was pleased at this plan of action, but was also reminded that the budget for a long-term staff should

be independent of the funding cycle for short-term research and development work on the next decennial census.

In closing, I'd like to take this opportunity to express my pleasure with the cooperation that we've gotten from the Bureau in our activity. They've been extremely open with us and have been very helpful, and I hope we've been helpful to them. It has been a very good working relationship, and we look forward to the next few months where this will even intensify, I think. Thank you.

[The prepared statement of Dr. Bradburn follows:]

PREPARED STATEMENT OF NORMAN M. BRADBURN, PH.D., CHAIRMAN, PANEL TO
EVALUATE ALTERNATIVE CENSUS METHODS, NATIONAL ACADEMY OF SCIENCES

INTRODUCTION

Good morning, Mr. Chairman and members of the Subcommittee. My name is Norman Bradburn. I am a professor of psychology and public policy at the University of Chicago and Director of Research at the National Opinion Research Center. I serve as the Chair of the Panel to Evaluate Alternative Census Methods of the National Research Council. The Research Council is the operating arm of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine, chartered by Congress to advise the government on matters of science and technology.

In response to the Decennial Census Improvement Act of 1991, and at the request of the Department of Commerce and the Census Bureau, the National Research Council began a study last year on the census in the year 2000. The study is being conducted by two panels under the Research Council's Committee on National Statistics (CNSTAT). One panel, on census requirements, asks what purposes a decennial census serves and whether alternative data collection can meet these objectives. The second panel, on census methods, focuses on how the census should be taken. These two panels are overlapping and complementary: overlapping because some topics—such as census designs—are of interest to both panels; complementary because recommendations about what Kind of census is needed affects suggestions about how the census should be taken. Both panels are required for the broad scope of this study.

PANEL ON CENSUS REQUIREMENTS IN THE YEAR 2000 AND BEYOND

The first panel, on census requirements, will evaluate the needs for data currently collected in the census, identify where the census is either required or is the most effective means to collect the data, and recommend accurate and cost effective methods for achieving through the census the constitutional requirement for a count of the population and for meeting the needs for other data either through the census or alternative means. This panel is chaired by Charles L. Schultze, a distinguished economist and senior fellow at The Brookings Institution, and former Director of the U.S. Bureau of the Budget and Chairman of the President's Council of Economic Advisors.

PANEL TO EVALUATE ALTERNATIVE CENSUS METHODS

I chair the second panel, on census methods. The panel includes distinguished members who are experts in statistics, survey methods and design, decennial census operations, field organization of large scale data collection, demography, geography, marketing research, administrative records and record linkage, small-area statistics, and respondent behavior. A list of panel members is appended to my testimony.

I should point out that our panel is looking not only at feasible methods for the census in the year 2000, but also census designs for 2010 and beyond. The charge to the panel is not limited by what doable for the census in the year 2000. We have a mandate to make recommendations for features of census design that should be investigated and developed for censuses after the next one. Some features of these next designs could be tested in the near term and further developed in conjunction with the 2000 census, even though they might not be fully implemented until subsequent censuses.

The panel has four basic tasks:

(1) Identify designs to be investigated in the near term. Initial designs have been proposed by the Department of Commerce task force, and the panel has reviewed these proposals;

- (2) Evaluate proposed research on the census designs;
- (3) Evaluate the results of the research and the selection of census designs for further consideration, in particular for the series of test censuses that begin in 1995;
- (4) Recommend census designs to be developed for 2010 and succeeding years.

The study will be conducted through March 1994 with an interim report issued by the end of July 1993.

The panel was convened on July 16-17, 1992. It was addressed by Dr. Barbara Everitt Bryant, then Director of the Census Bureau, and by staff of this Subcommittee and the Senate Subcommittee on Government Information and Regulation. The panel heard presentations from Census Bureau staff on the design options and features for census methods and on the assessment of the 1992 census tests.

At this first meeting, the panel organized four working groups to consider different aspects of alternative designs: (1) minimal content designs, possibly with other data collected over the decade; (2) alternative response modes; (3) administrative records and lists; and, (4) coverage and differential coverage measurement.

The panel held its second meeting on October 22-23, 1992 at which time the Deputy Director of the Census Bureau spoke on the Year 2000 Census Task Force, the process of winnowing census designs, and on the advisory role of the methods panel. On the first day, Bureau staff gave updates on the 2000 census research and development program. Panel members devoted the majority of the second day to meeting in working groups with Bureau contacts.

The panel transmitted its first report to the Census Bureau at the December 14, 1992 Census Task Force Advisory Committee Meeting. The letter report offered general comments on the design selection process and summarized the panel's assessment of two Census Bureau documents, Design Alternative Recommendations (DARs) #1 and #2. Fourteen alternative census designs have been identified by the Census Bureau, and by fall of this year, the Bureau intends to winnow this list of fourteen designs down to two or three designs that will be evaluated in mid-decade census tests. DAR #1 recommended eliminating three minimal content designs from further consideration, and DAR #2 recommended dropping from further consideration two designs that depend primarily on administrative records. I will now summarize the contents and recommendations of the letter report, a copy of which is appended.

- The panel agreed with the Bureau's recommendation to remove the candidate designs identified in DAR #1 and DAR #2 from consideration for use in the 2000 census, with the qualification that research on these options should continue in order to permit more comprehensive evaluation for the 2010 census. These five designs are: administrative records only (Design 7 in the Census Bureau's list of fourteen alternative designs); administrative records with enumeration support (Design 8); redistricting counts only (Design 10); redistricting counts only, no estimation (Design 11); and, reapportionment counts only, no estimation (Design 12).

- The panel questioned the Bureau's criteria for rejecting designs and suggested moving away from the "fatal flaw" approach to winnowing designs. Rather than fully explicating the pros and cons of the designs under consideration, the DARs identified one or two fatal flaws that ruled out the designs for the year 2000. One shortcoming of such an approach is that it does not identify all the important issues that need to be addressed: (1) the rejected designs are to be considered for use beyond 2000.

- With regard to DAR #1 which recommended eliminating three designs that provide only basic "headcounts" of the population, the panel suggested that the Census Bureau and the Commerce Department consider undertaking an evaluation of a full range of consequences that would result from the use of those three designs for the 2000 census. Such an evaluation will not only provide a more complete assessment of the feasibility of the three designs for censuses beyond 2000, but also will assist greatly in establishing whether other alternatives—such as variations of a continuous measurement design—do in fact constitute viable and cost-effective options.

- With regard to DAR #2 which recommended eliminating two designs that rely on administrative records as the primary response option, the panel agreed that there is now no combination of administrative record systems that could provide the race information needed to reproduce voting rights data equivalent to those that were developed from the 1990 census or even a reduced set using only the Office of Management and Budget's five minimum racial/ethnic categories.

- The panel's main concern with DAR #2 is that it failed to look beyond 2000. The panel made four recommendations concerning further consideration of the use of administrative records for the nation's censuses in the future.

(1) The Census Bureau should initiate a separate program of research on administrative records, focusing primarily on the 2010 census and on current estimates programs. The research program should be funded separately from the 2000 census research and development activities, but there should be close liaison between them.

(2) The Census Bureau should undertake a planning study, in collaboration with other agencies and contract support as needed, that would develop one or more detailed design options for a 2010 administrative records census. The study would have two major goals: to identify the steps that would need to be taken, early in this decade, to make a 2010 administrative records census possible and to set the stage for a national debate on the desirability of an administrative records census. The study, or at least its initial phases, should be completed during the current fiscal year.

(3) The Census Bureau should seek the cooperation of federal agencies that maintain key administrative record systems, particularly the Internal Revenue Service and the Social Security Administration, in undertaking a series of experimental administrative records minicensuses and related projects, starting as soon as possible and including one concurrent with the 2000 census.

(4) The Census Bureau should give priority to some use of administrative records in the 2000 census for those purposes for which such usage is still feasible, such as coverage and content improvement and coverage evaluation.

The panel recently held its third meeting on February 4-5, 1993 and spent the first day hearing updates on the activities of the Task Force on the Year 2000 Census and the Year 2000 Census Research and Development Staff. The following day was spent at the Census Bureau where the panel heard the Bureau's response to the panel's letter report and met in working groups with Bureau staff.

The panel is scheduled to hold its next meeting on June 3-4, 1993.

I will now briefly describe the mission of each working group and its activities to date. As the working groups consider census methods, they are consulting with Bureau staff and others, exchanging written correspondence as needed, and working with CNSTAT panel staff to prepare the interim and final reports.

Let me take this opportunity to thank the Census Bureau staff for their accessibility and cooperation in providing information and materials for deliberations of our panel and its working groups. Their openness has enabled us to build what we believe is a very productive working relationship as we proceed with the panel's mission.

Minimal Content and Multi-Stage Alternatives

This group is examining census designs that involve either minimal data content or data collection over a decade. The working group's agenda includes designs that depart from the traditional notion of asking all census questions on April 1—e.g., two-stage and continuous measurement designs. The working group is considering both technical and nontechnical issues associated with the implementation of these designs. Keith Rust is the convenor for this group which also includes Bruce Petrie, Edward Schillmoeller and me.

Alternative Response Modes

This group is considering multiple and alternative response support for census taking. The working group is reviewing work on identifying barriers to and alternative methods for counting hard-to-enumerate groups within the general population. Topics under study by this working group include ethnographic research, living situations and census residence rules, mail versus telephone mode effects on response, and unduplication issues associated with offering multiple response options. Nora Cate Schaeffer is the convenor for this group which also includes Katherine Newman and Michael Weeks.

This working group held a meeting on January 26, 1993. Workgroup members and staff met with staff of the Bureau's Special Methods Working Group for an overview of current and future research on alternative enumeration methods. The workgroup also discussed research on questionnaire design and implementation aimed at improving public response to the traditional mail census.

Administrative Records

This group is reviewing current and potential uses of administrative records in censuses and other components of the Census Bureau's demographic data systems. The group is considering technical, legal, and administrative issues, as well as factors such as cost and public acceptability in making recommendations regarding new uses of administrative records and future research and development. Thomas

Jabine is the convenor for this group which also includes Gordon Brackstone and Peter Rogerson.

This working group held a meeting on September 15-16, 1992. Census Bureau staff briefed the group on the alternative census designs with substantial administrative record components. Working group members and staff spent the second day of the meeting at the Geography Division of the Bureau for an overview and demonstration of the TIGER geographic support system.

On November 16, 1992, a meeting was held to review the current estimates program and to discuss the uses of administrative records in the programs, including problems with access, quality, suggestions for improving administrative records, and future visions for the current estimates program.

Coverage and Differential Coverage Measurement

This group is examining how problems of coverage and differential coverage could be assessed and improved with sampling and statistical estimation methods. Topics of interest to this group include sampling and truncation of nonresponse followup operations and alternative coverage measurement methodologies, including integrated coverage measurement techniques designed to yield a "one-number" census. Robert Bell is the convenor for this group which also includes Clifford Clogg and Alan Zaslavsky.

ISSUES FOR CENSUS METHODS

Next, I would like to mention several issues that the panel has recently discussed and intends to pursue actively in the subsequent months prior to issuing our interim report.

Two areas that seem broadly relevant for 2000 census planning are address list development and unduplication research. Our panel has been struck by the central importance of address list development to virtually all candidate designs for the 2000 census, and we are considering the consequent implications for updating the Census Bureau's current Master Address File (MAF). We learned at our February panel meeting that the Bureau's 1990 address file could serve as a base for the year 2000 file and that address file updating will be included as an item in the fiscal year 1994 budget. Further, we understand that the U. S. Postal Service remains interested in joint work on address list development, but without the geographic component provided by the Bureau's TIGER system.

Also, the panel has observed that offering multiple options for responding to the census, such as use of the telephone or distribution of questionnaires at public places, would require aggressive research on unduplicating techniques so that households with multiple responses are not counted more than once. Multiple response modes, including special methods for counting hard-to-enumerate populations, constitute a set of methods that could be adapted to many of the remaining alternative census designs. We are aware that the Census Bureau conducts ongoing research on unduplication, and we will be assessing whether this program should be expanded.

We are concerned about the conceptual issue of tradeoffs in census design and the degree of public recognition of these tradeoffs. For example, cost and differential coverage are frequently cited as major criticisms of the decennial census. Yet, efforts to improve the differential undercount may not be compatible with the objectives of reducing unit costs. Traditional approaches have usually expended additional effort at improving the enumeration in low response areas, thereby increasing the cost of census data collection. The panel is considering whether there are new ways to improve coverage without dramatic increases in cost.

We are examining a key methodological issue in the area of coverage measurement. The panel is looking at the relative merits of estimation and adjustment techniques similar to those used in the 1990 Post-Enumeration Survey versus proposed techniques for integrated coverage measurement to produce a "one-number" census. A one-number census would yield a single set of data by mandated deadlines, instead of producing, as in 1990, unadjusted counts by the legal deadlines and adjusted counts sometime later. There are attendant political issues, as well as technical ones. Among the technical issues is whether adjusted counts for small geographic areas should sum to adjusted counts for larger, aggregate regions using different bases for adjustment. While such consistency may have intuitive appeal, the panel is exploring whether that should be a technical requirement of 2000 census methodology.

Following the recommendations of our letter report, the panel is assessing the desirability of using administrative records for coverage evaluation in the 1995 census tests. As a related point the panel has observed that the shortcomings of current

administrative record systems, for purposes of the decennial census, can be attributed in part to the failure to consider possible statistical uses at the time of system design.

There appear to be potential benefits that might accrue from improved coordination among federal agencies. I cite as examples possible work with the Postal Service on address list development and with the Internal Revenue Service and Social Security Administration on statistical usage of administrative records. The panel has speculated on what might be done to increase the level of cooperative research and what role the Office of Management and Budget might play in facilitating interagency work.

Finally, we learned at our meeting last month that the Census Bureau will submit a budget initiative to form a long-term census research staff in fiscal year 1995. The panel was pleased at this plan of action, but was also reminded that the budget for a long-term staff should be independent of the funding cycle for short-term research and development work on the next decennial census.

In closing, I thank you for the opportunity to discuss planning activities for the 2000 census. Our panel strongly wishes to be of assistance in achieving a sound design for the 2000 census and in building a longer term census research and development program. We have been aided in our efforts by the Census Bureau's open cooperation and sharing of information. We look forward to continuing our work in fulfilling the panel's advisory mission with the encouragement and support of the Census Bureau and of Congress.

PANEL TO EVALUATE ALTERNATIVE CENSUS METHODS

BIOGRAPHICAL SKETCHES OF PANEL MEMBERS

Norman M. Bradburn is Chair of the Panel to Evaluate Alternative Census Methods. He is currently the Tiffany and Margaret Blake Distinguished Service Professor of Psychology, Professor in the Harris Graduate School of Public Policy Studies at the University of Chicago, and Director of Research at the National Opinion Research Center. He is one of the foremost experts on questionnaire design and has conducted many studies of response problems in surveys and evaluations of questionnaires and survey interview improvements.

Robert M. Bell is a statistician with the Rand Corporation. He has worked on a number of different projects mainly in health and education. His areas of expertise include survey design, survey analysis, and general experimental design issues.

Gordon J. Brachstone is Assistant Chief Statistician of the Informatics and Methodology Field at Statistics Canada. His background is in survey methodology with a long standing interest in census methodology.

Clifford C. Clogg is a sociologist and statistician at Pennsylvania State University. He is a former chair and current member of the Population Association of America (PAA) Census Advisory Committee.

Thomas S. Jabine is an independent consultant and formerly was Chief of the Statistical Research Division at the Census Bureau. His general background is in survey methodology, particularly in sampling, questionnaire development, and non-sampling errors. He has been a consultant to the Committee on National Statistics (CNSTAT) for a number of years since leaving the federal government, currently serving as consultant to CNSTAT's Panel on Confidentiality and Data Access.

Katherine S. Newman is a professor of anthropology at Columbia University. Her areas of specialization include social anthropology and American society, anthropology and public policy, and legal and political anthropology. She has been studying downward mobility in terms of political, economic, and family aspects.

D. Bruce Petrie is Assistant Chief Statistician of the Social, Institutions, and Labor Statistics Field at Statistics Canada. He is responsible for social statistics which includes the census of population, household surveys, and Canada's equivalent Current Population Survey.

Peter A. Rogerson is a professor of geography at the State University of New York, Buffalo. His areas of specialization include internal migration, mathematical demography, and estimates and projections.

Keith F. Rust is a senior statistician at Westat, Inc., and formerly was with the Australian Bureau of Statistics. His work deals mainly with educational surveys, particularly the national assessment of educational progress. His areas of specialization include survey research and data analysis and procedures.

Nora Cate Schaeffer is a professor of sociology at the University of Wisconsin, Madison. Her areas of expertise include respondent behavior and interviewer-responder interaction. Her past research has concentrated on a number of different

areas in survey methodology dealing with nonsampling error, both nonresponse and response errors of various kinds.

Edward A. Schillmoeller is senior vice president of media research at A.C. Nielsen Company, where he conducts and directs all the statistical activities for the Nielsen ratings, which are primarily household surveys. His areas of expertise include survey research and data collection procedures.

Alan M. Zaslavsky is a professor of statistics at Harvard University. The majority of his research has been in the area of post-enumeration survey and his interests include the application of hierarchical Bayes methods for combining different sources of data.

Mr. SAWYER. Thank you very much for your testimony. Just let me add to your last comment, in that it echoes what Mr. Hunt was mentioning, it's important to recognize that neither you nor he would be offering the usual platitudes about the importance of dedicated long-term career staff if, in fact, you did not find that in the Bureau itself.

Mr. BRADBURN. Right.

Mr. SAWYER. It's not just the ordinary handing out of obligatory—

Mr. BRADBURN. Yes, I would like to say I certainly didn't mean that as a platitude at all. I really sense that, in the last 6 months, there really has been an enormous change in our relationships and in the working of the Bureau. And I would echo a little bit of what Mr. Hunt said. I think there was a period last year in which—the latter part of last year—in which the Bureau was undergoing a transition in leadership at its two top levels, and now that Dr. Scarr is there and confirmed, that gets that one very solidly in place and, if we can just move ahead and get a Director of the Census, then everything will be in place so that that kind of leadership can go on.

That is not to say that they are not doing a lot of things, in any case, but certainly for many really important issues, you've got to have top leadership in place before one wants to come down hard on them.

Mr. SAWYER. Let me just mention that one area where that leadership might be helpful, although I'm sure that candor and openness with the research panels has been important. It's nice to find out about the proposal for a long-term census research staff, but in preparing advocacy for that sort of thing, it would be helpful if we had known about it, because it would help us to coordinate the advocacy for what is needed right now and how it flows into what will be needed down the road not very far.

And, so, to the degree that other people read this sort of record, why, I hope they'll take note of that.

Let me just offer by way of observation that you spoke about importance of credibility. I think here we deal all too frequently with, on the one hand, the illusion of precision and the improvement of accuracy, and they are not necessarily the same things, particularly when you get to questions that deal with whether or not to sum for—whether we ought to require—

Mr. BRADBURN. Sums up to the same number.

Mr. SAWYER [continuing]. That agree to the same sums. You may get the illusion of precision, but you sacrifice enormously in terms of accuracy. If I had a way to go back and teach everybody just fun-

damental principles of statistics, it would be helpful in doing all this sort of work not just that area, but many others.

What's the most important stuff for the Bureau to be doing between now and September?

Mr. BRADBURN. Obviously, to come down on what these two designs are. I think the kinds—I would say that the two designs should be designed to gain maximal information about what one might think of as more radical alternatives. There are a lot of things that—at this point one can be riskier, or take more risks, so to speak, about the kind of research that one's doing, than one can further down the line. And that means, obviously, the risk of doing something wrong, or doing something that is, in fact—

Mr. SAWYER. That's why they call them experiments, I think.

Mr. BRADBURN. That's right, and I think that needs to be stressed, and I think our committee will be stressing that as we go along.

I think there are a number of things with regard to the coverage problems, so-called barriers research, there are a number of things going on that look at ways in which the hard-to-enumerate populations can be tapped in somewhat different ways. My guess is there that the things which, in fact, may improve dramatically the level of coverage, do have some difficulties then in trying to make sure that you've not overcounted people.

There is a problem which is not often alluded to, with the enormous push to try to reduce the undercoverage problem for the hard-to-enumerate population. Many of those techniques, because they are approaching it in many different kinds of ways, will enumerate households potentially several times—therefore, my emphasis on the unduplication research. You've got to have a way then of being able to know whether you've already counted that household.

Mr. SAWYER. It's particularly a problem when the overcount and the undercount occur in different places because it exacerbates the differential. So, I appreciate what you're saying.

Mr. BRADBURN. There is a program which will be underway, I'm not quite sure what the timetable is, but in the quite near future, on looking—which I think is called the alternative lifestyles, or unconventional households—which will be looking at more detail into the enumeration of the households that prove to be hard-to-enumerate.

Mr. SAWYER. Well, we learned a great deal about that in 1990. We ought to use that.

Mr. BRADBURN. Well, but when you do use it, then you get into—because some of the techniques you have to use to get at those then run the risk of not being able to tell whether you've already done it or whether you—

Mr. SAWYER. I gather from what you say that you would add to the questions mentioned earlier with Dr. Scarr and Mr. Hunt, of sampling for nonresponse, vacancy updates, and content, that you would add unduplicating as a critical component.

Mr. BRADBURN. I would add that as a very critical one.

I think, as I mentioned in my remarks, I think aggressive work on the Master Address File is vital no matter what you're going to do. I don't quite understand the whole history of this. In 1980, I was a member of the American Statistical Association Advisory

Committee to the Census, and we raised the question there about having a continuous update of a Master Address File. It seemed quite clear that some of the problems in the '80 census were due to the fact that they were putting together the address file concurrently, essentially, in the few years before. This is, again, one of these sort of things where investment up front and continuously over the decade would save a whole lot of money, as well as, I think, improve things later on.

My understanding is that we are at a critical period. I don't think much, if any, work has really been done on the address file since the '90 census and, if something isn't done rapidly, we basically will have lost what was done then. So, I think it's still possible to get on with keeping it up to date.

And I think there are two issues, one that was alluded to with regard to the cooperation with the Postal Service, and I think there are several problems there. One is the certain amount of lack of clarity about confidentiality, the legal sharing of lists, and so forth.

If I could expand on that just for a second. I think there are two problems here, one of which gets a modest amount of attention and one I've not seen discussed at all, so I want to add that one.

The one that gets the modest amount of attention is the legal issue. Does title XIII protect the addresses and sharing of addresses and so forth? Well, I think that the burden of opinion has been that, yes, it does. I don't know if you've looked at the recent review of the legal situation from the Congressional Research Service, but they come down on the side that the courts have basically said that the address list, the census address list, is protected by title XIII, even when the list has started from public lists, because there have been some updates or additions that come from the census process, and that makes it protected.

I think that's been a barrier to really serious work on sharing—this is my personal opinion, we have not looked into this in great detail, but this is really from my own opinion—that that's been—people have been so paralyzed by that that they haven't been able to do much.

Now, there are these other things referred to, I think Mr. Hunt referred to, which I don't know much about as to whether there are, in fact, legal barriers to the Postal Service sharing its list the other way, and the IRS sharing lists, and Social Security sharing and so forth. I think somebody really needs to get in there and get that all straightened out and, if there's legislation required, to do it, to do what's needed to balance these problems of confidentiality against these other things. This is something which is not peculiar to the census, it's really something which is more widely a problem in the Federal statistical system.

But the issue that hasn't been discussed is the natural interests or divergence of interests of different agencies—you might say, the bureaucratic problem, if you put it in a pejorative sense, but I think that trivializes it.

The problem is that when two groups that have different missions cooperate, they both want to get something out of it. And cooperation works well when it helps both sides. If title XIII says it can only be a one-way street—that is, you give us the lists and we can't give you anything back that's helpful to you—it doesn't moti-

vate other agencies to be very cooperative because what are they going to get out of it. They're being good corporate citizens, or good national citizens, but it's not going to be high on their priority list because they're not going to get anything out of it. But in a genuine cooperation which would motivate both parties to be really concerned about it, it would be: from the Postal Service view, can we get something out of it, or for the IRS or Social Security, can we get something back?

Well, the way title XIII has been interpreted or set up, I guess, from what I've been reading, I'd say that's what the reality is. The Bureau's in a position that says, "Well, sorry, we can't really give you anything back. You help us, but the law says we can't help you back", and that is not a message that would, if I were in the Postal Service or something like that, motivate me to want to put this high on my list when I've got lots of other things to do.

The other thing which I think—

Mr. SAWYER. Let me just comment. It's interesting to me that the one place where the collaboration at least appears to go forward on a level at which it has occurred in the past, has been with regard to the lists, but that in the new arena, where there are fewer of the title XIII kinds of problems than the map, the map seems to have actually collapsed.

Mr. BRADBURN. Well, yes, and I'm not quite sure—you might ask others—my understanding is that the Postal Service—

Mr. SAWYER. Collapse might be the wrong word—hasn't fulfilled—

Mr. BRADBURN. Well, it hasn't been going forward with the vigor that one would like, let's say that. And that does seem to have something to do with the maps—the TIGER system, that is. For the Master Address File, as conceived, I think, to be really useful to the Bureau—although I think even without this it would still be worth doing—it needs to have the addresses in the TIGER file—that is, to have the mapping of the addresses, not just the addresses in even electronic form and so forth, but have them mapped.

And I would hope that the desire to do the mapping wouldn't necessarily stop other things from going on which are still useful even though they're low-tech. There is a tendency among people, and I don't know whether this is true in the Bureau, I just say this abstractly because I see it in my own organization and in many places—the people who are advancing technology are very much enamored with what the new technology can do and, therefore, they don't want to bother with low-tech things, even though low-tech things may be—or an older technology—it may not even be all that low-tech, but older—may not be as useful, and so they don't pay as much attention to that and say, "Well, if we can't put it in the new system, let's just wait until we can". That kind of attitude can be very destructive to getting the total job done in a timely and cost-effective manner. That is not to say that one shouldn't be working on all these because I've seen TIGER as a great advantage, and it was enormously helpful in the '90 census, but it shouldn't drive everything.

Mr. SAWYER. Let me ask one final question. Right now, we're trying to work on a way to use administrative records in enhancing current estimates. We plan to introduce a bill shortly to facilitate

more current poverty estimates in smaller areas. And the Bureau's proposal to produce those estimates relies very heavily on records from the IRS. I just hope that the National Academy can work with the Bureau to ensure the soundest possible methodology for that kind of program.

Mr. BRADBURN. Well, just to be a little bit more optimistic on that score, our administrative records working group has been working quite closely, perhaps more closely than any of the groups, with people in the Bureau and with people in IRS. So, we have been, I think, sort of doing some mission work in trying to get people together—and I think we can play a kind of constructive role since we're of neither organization. It sometimes helps to have outsiders move things along.

Mr. SAWYER. That's why we asked you to come. Thank you.

Just by way of closing comment, it's perfectly clear when a Member comes to Congress has experience in dealing in a legislative body and the kind of work that we do, but is not tutored in the details of the work that's gone on over decades, but you surely get to the heart of the problem. Thank you for that.

Thank you very much, Dr. Bradburn, and thanks to all of our witnesses. If we have no more business to come before us, we stand adjourned today.

[Whereupon, at 11:30 a.m., the subcommittee was adjourned.]



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